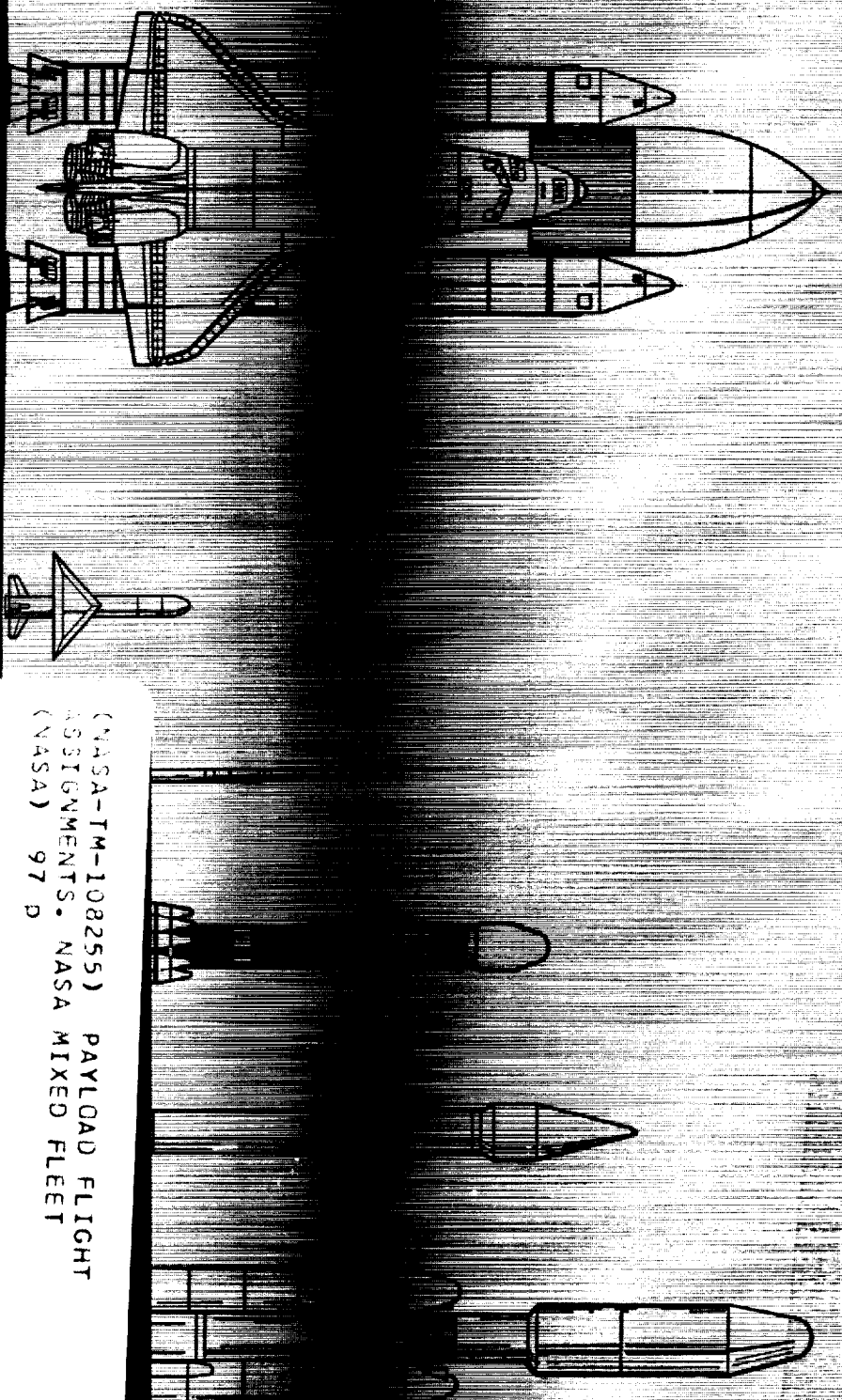


PAYLOAD FLIGHT ASSIGNMENTS NASA MIXED FLEET

NASA-TM-108255



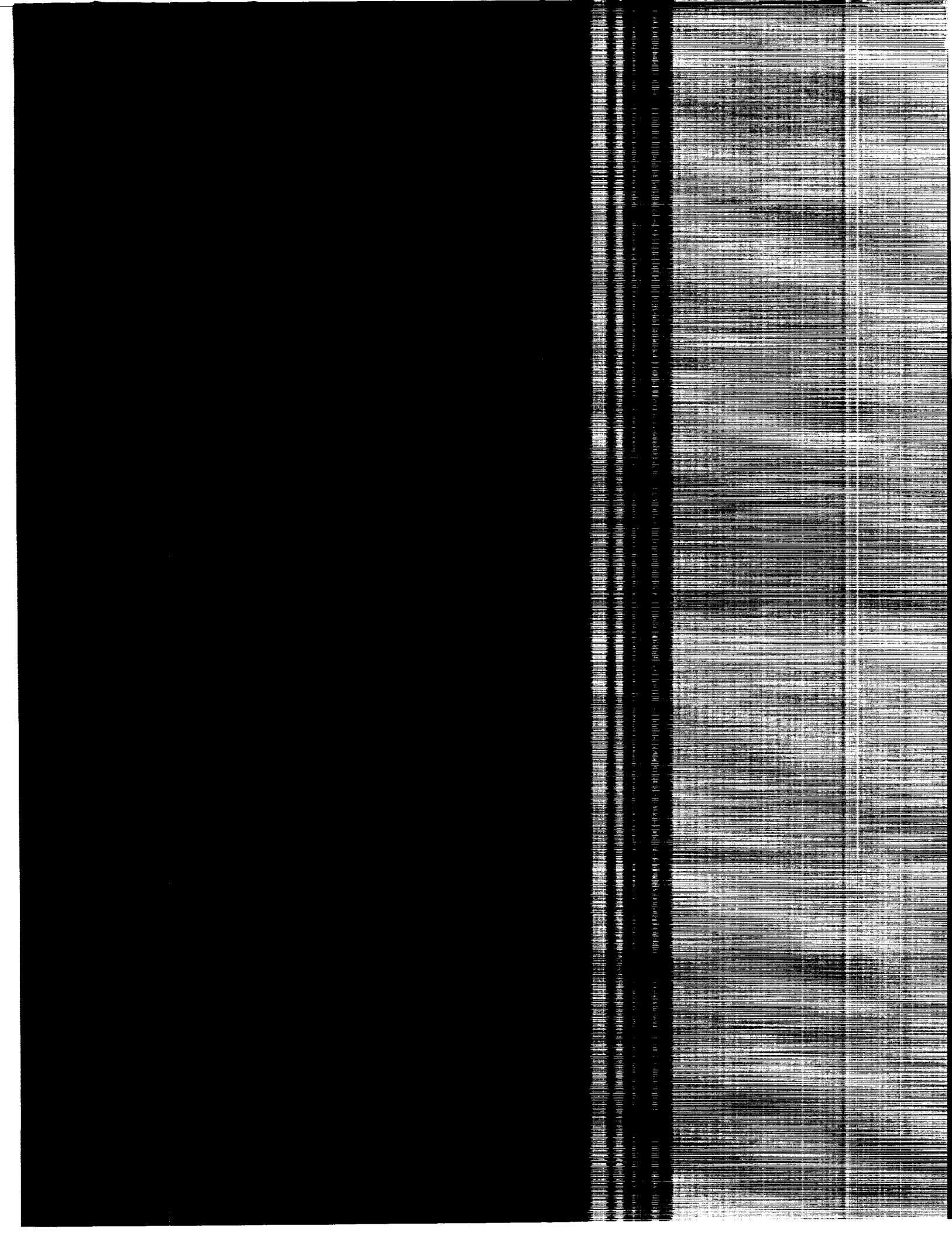
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ASSIGNMENTS. NASA MIXED FLEET
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APRIL 1993



PAYLOAD FLIGHT ASSIGNMENTS

NASA MIXED FLEET

APRIL 1993

SUBMITTED BY

NORMAN STARKEY

ACTING DIRECTOR, SPACE SHUTTLE HEADQUARTERS SUPPORT OFFICE

APPROVED BY

THOMAS E. UTSMAN

DIRECTOR, SPACE SHUTTLE PROGRAM

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SECTION 1

MIXED FLEET MANIFEST NOTES AND SUMMARY

MIXED FLEET MANIFEST NOTES

- THIS MANIFEST SERVES AS THE BASELINE FOR PLANNING PURPOSES. IT INCLUDES PAYLOAD FLIGHT ASSIGNMENTS FOR THE SPACE SHUTTLE THROUGH FISCAL YEAR 1995 AND NASA EXPENDABLE LAUNCH VEHICLE (ELV) MISSIONS THROUGH FY 1999.

NOTE: THE FY 96-99 SHUTTLE MANIFEST PLANNING IS OMITTED PENDING SPACE STATION REDESIGN. THE PLAN UNDER REVIEW ASSUMES A FLIGHT RATE OF EIGHT FLIGHTS PER YEAR.

- SPACE SHUTTLE LAUNCH DATES ARE SHOWN BY MONTH AND/OR QUARTER AND REPRESENT REASONABLE EXPECTATION AS TO WHEN THE LAUNCH WILL OCCUR; HOWEVER IN MOST CASES, NASA'S INTERNAL PLANNING WILL BE AGAINST EARLIER LAUNCH DATE TARGETS.

- PRIMARY AND COMPLEX SECONDARY SPACE SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS ARE BASELINED IN THE SPACE SHUTTLE PROGRAM CONTROL DOCUMENTATION APPROXIMATELY 17 MONTHS PRIOR TO LAUNCH. OTHER SECONDARY PAYLOAD ASSIGNMENTS ARE NORMALLY BASELINED 8 TO 12 MONTHS PRIOR TO LAUNCH. NOTE: ONCE BASELINED, THE FLIGHT NUMBERS ARE MAINTAINED WITH THE PRIMARY PAYLOAD; THESE BASELINED FLIGHTS MAY NOT REMAIN IN NUMERICAL ORDER WITH SUBSEQUENT MANIFEST CHANGES.

- FOR FURTHER SHUTTLE OR ELV INFORMATION PLEASE CONTACT:

SPACE SHUTTLE HEADQUARTERS	EXPENDABLE LAUNCH VEHICLES OFFICE
SUPPORT OFFICE	MAIL CODE SV
MAIL CODE ME	NASA HEADQUARTERS
NASA HEADQUARTERS	300 E STREET, S.W.
300 E STREET, S.W.	WASHINGTON, DC 20546 - USA
WASHINGTON, DC 20546 - USA	TELEPHONE: (202) 358-2469 FAX: (202) 358-4163
TELEPHONE:(202)358-4446 FAX:(202)358-2818	

SECTION 2

SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS

NOTES:

- 1. MISSION DURATION CONTAINS THE POTENTIAL EXTENSION IN PARENTHESIS**
- 2. PAYLOADS IN PARENTHESIS ARE CONFIGURED USING THE SAME CARRIER**



APRIL 1993 SPACE SHUTTLE MANIFEST

[illegible]

**** SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS ****
APRIL 1993

FLT	DATE ORBITER	INCL ALT	CRW DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
55	APR 93 COLUMBIA	28.5 160	7 9 + (1)	SL-D2	LM+USS+2 CAP	SAREX II-07	CDR:STEVEN R. NAGEL PLT:TERRENCE T. HENRICKS MS (PLC):JERRY L. ROSS MS:BERNARD A. HARRIS, JR. MS:CHARLES J. PRECOURT, JR. PS:HANS SCHLEGEL (GERMANY) PS:ULRICH WALTER (GERMANY)
57	JUN 93 ENDEAVOUR	28.5 250	6 7 + (1)	EURECA-1R SPACEHAB-01 CONCAP IV-01 SHOOT GBA(11)	EURECA-A SPACEHAB CAP/GBA HH-M GBA	FARE-02 SAREX II-08 AMOS-14	CDR:RONALD J. GRABE PLT:BRIAN DUFFY MS (PLC):G. DAVID LOW MS:NANCY J. SHERLOCK MS:JANICE E. VOSS MS:PETER J. K. WISOFF
51	AUG 93 DISCOVERY	28.5 160	5 9 + (1)	ACTS ORFEUS-SPAS-01 LDCE-02	TOS ASTRO-SPAS CAP/SW	CPCG-03 HRSGS-A-01 IMAX-08 IPMP-08 CHROMEX-04 RME III-11 APE-B-02 AMOS-15	CDR:FRANK L. CULBERTSON, JR. PLT:WILLIAM F. READDY MS:DANIEL W. BURSCH MS:JAMES H. NEWMAN MS:CARL E. WALZ

**** SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS ****
APRIL 1993

FLT	DATE ORBITER	INCL ALT	CRM DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
58	SEP 93 COLUMBIA	39.0 153	7 14	SLS-02	LM+EDO	SAREX II-09	CDR: JOHN E. BLAHA PLT: RICHARD A. SEARFOSS MS (PLC): M. RHEA SEDDON MS: SHANNON W. LUCID MS: WILLIAM S. MCARTHUR, JR. MS: DAVID A. WOLF PS: MARTIN J. FETTMAN
60	DEC 93 DISCOVERY	57.0 190	6 8	SPACEHAB-02 MSF-01 (CAPL/GBA(4)) (ODERACS-1R) (BREMSAT)	SPACEHAB MSF GBA GBA GBA	SAREX II-10 APE-B-03	CDR: CHARLES F. BOLDEN, JR. PLT: KENNETH S. REIGHTLER, JR. MS: FRANKLIN R. CHANG-DIAZ MS: N. JAN DAVIS MS: SERGEI KRIKALEV (RUSSIA) MS: RONALD M. SEGA
61	DEC 93 ENDEAVOUR	28.5 310	7 11	HST SM-01 ICBC-04	FSS+UNIQUE ICBC	IMAX-09 AMOS-16	CDR: RICHARD O. COVEY PLT: KENNETH J. BOWERSOX MS (PLC): F. STORY MUSGRAVE MS: THOMAS D. AKERS MS: JEFFERY A. HOFFMAN MS: CLAUDE NICOLLIER MS: KATHRYN C. THORTON

**** SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS ****
APRIL 1993

FLT	DATE ORBITER	INCL ALT	CRW DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
62	MAR 94 COLUMBIA	39.0 160	5 14	USMP-02 OAST-02 DEE SSBUV/A-03 LDCE-03	2-MPESS+EDO HH-M GAS BEAM SSBUV/A CAP/SW	APCG-01 CPCG-04 ASPECS-01 PSE-03 MODE-RFL CGBA-02 AMOS-17	CDR:JOHN CASPER PLT:ANDREW ALLEN MS:SAM GEMAR MS:MARSHA IVINS MS:PIERRE THOUT
59	APR 94 ENDEAVOUR	57.0 120	6 9	SRL-01	PAL+MPRESS		CDR:SIDNEY M. GUTIERREZ PLT:KEVIN CHILTON MS (PLC):LINDA M. GODWIN MS:JAY APT MS:MICHAEL R. CLIFFORD MS:THOMAS D. JONES
63	JUN 94 DISCOVERY	51.6 200	6 8	SPACEHAB-03 SPTN 201-02 IEH-01	SPACEHAB SPARTAN HH-M		
65	JUL 94 COLUMBIA	28.5 160	7 13	IML-02	LM+EDO		MS (PLC):RICHARD J. HIEB MS:LEROY CHIAO MS:DONALD A. THOMAS PS:CHIAKI MUKAI
66	SEP 94 ENDEAVOUR	57.0 160	5 10	ATLAS-03 CRISTA-SPAS-01 SSBUV/A-04	IG+1-PAL ASTRO-SPAS SSBUV/A		

**** SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS ****
APRIL 1993

FLT	DATE ORBITER	INCL ALT	CRM DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
64	SEP 94 DISCOVERY	57.0 140	5 9	LITE 1 SPTN 204 GBA(12)	PAL SPARTAN GBA		
67	DEC 94 COLUMBIA	28.5 190	6 13	ASTRO-02	IG+2-PAL+EDO		
68	DEC 94 ATLANTIS	57.0 120	6 9	SRL-02	PAL+MPRESS		
69	JAN 95 DISCOVERY	57.0 135	6 7	SPACEHAB-04 SPAS-111	SPACEHAB SPAS+UNIQUE		
70	MAY 95 ENDEAVOUR	28.5 190	6 9	WSF-02 IEH-02 OAST-FLYER GBA(12)	WSF HH-M SPARTAN GBA		
71	JUN 95 ATLANTIS	51.6 TBD	TBD 9	SL-M	LM		
72	JUL 95 DISCOVERY	28.5 160	5 5	TDRS-G CMSE-01	IUS HH-G		
73	SEP 95 ENDEAVOUR	28.5 160	5 10	SPACEHAB-05 SPTN 201-03 OAST-03 SSBUV/A-05	SPACEHAB SPARTAN HH-M SSBUV/A		

**** SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS ****
APRIL 1993

FLT	DATE ORBITER	INCL ALT	CRW DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
74	SEP 95 COLUMBIA	28.5 160	7 16	USML-02	LM+EDO		

SECTION 3

ELV PAYLOAD FLIGHT ASSIGNMENTS



APRIL 1993 ELV MANIFEST

PLOT DATE / 22-APR-93 / 3:03 PM
APPROX ELV / 22-APR-93

		FY93				FY94				FY95				FY96				FY97				FY98				FY99				FY00			
		2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1
		CY93				CY94				CY95				CY96				CY97				CY98				CY99				CY00			
SMALL	SCOUT MAY-93 RADCAL																																
	SCOUT OCT-93 MSTI-02																																
MEDIUM	ATLAS E JUN-93 NOAA-I																																
	ATLAS E MAY-94 NOAA-J																																
INTERMEDIATE	DELTA II FEB-94 WIND POLAR																																
	ATLAS I APR-94** GOES-I																																
LARGE	ATLAS I MAR-95** GOES-J																																
	ATLAS I OCT-97 CASSINI																																

** FOR NASA PLANNING PURPOSES

**** ELV PAYLOAD FLIGHT ASSIGNMENTS ****
APRIL 1993

DATE MO YR	CLASS	L A U N C H TYPE	V E H I C L E INCL	PAYLOAD ORBIT	LAUNCH SITE	PAYLOAD
MAY 93	SMALL	SCOUT	90.0	POLAR	VAFB	RADCAL
JUN 93	MEDIUM	ATLAS E	98.7	SS	VAFB	NOAA-I
OCT 93	SMALL	SCOUT	97.0	POLAR	VAFB	MSTI-02
FEB 94	MEDIUM	DELTA II	28.7	HE	CCAFS	WIND
APR 94**	INTERMEDIATE	ATLAS I	28.5	GS0	CCAFS	GOES-I
MAY 94	MEDIUM	ATLAS E	98.7	SS	VAFB	NOAA-J
MAY 94	MEDIUM	DELTA II	90.0	HE	VAFB	POLAR
JUL 94	SMALL	PEGASUS	TBD	LE0	WFF	TOMS-01
AUG 94	SMALL	PEGASUS	TBD	LE0	VAFB	FAST
DEC 94	MEDIUM	DELTA II	98.6	LE0	VAFB	RADARSAT
DEC 94	SMALL	PEGASUS	TBD	LE0	WFF	SAC-B/HETE
MAR 95**	INTERMEDIATE	ATLAS I	28.5	GS0	CCAFS	GOES-J
JUN 95	SMALL	PEGASUS	TBD	LE0	WFF	SWAS
JUL 95	INTERMEDIATE	ATLAS IIAS	28.5	HE	CCAFS	SOHO
AUG 95	MEDIUM	DELTA II	TBD	LE0	CCAFS	XTE

** FOR NASA PLANNING PURPOSES.

**** ELV PAYLOAD FLIGHT ASSIGNMENTS ****
APRIL 1993

DATE MO YR	CLASS	LAUNCH TYPE	VEHICLE INCL	PAYLOAD ORBIT	LAUNCH SITE	PAYLOAD
FEB 96	MEDIUM	DELTA II	TBD	PLAN	CCAFS	NEAR**
MAR 96	MEDIUM	DELTA II	TBD	LUNAR	CCAFS	SCOUT-01**
JUN 96	SMALL	PEGASUS	TBD	TBD	WFF	SMEX-04
JUN 96	MEDIUM	TITAN II	98.7	SS	VAFB	NOAA-K
NOV 96	MEDIUM	DELTA II	TBD	MARS	CCAFS	MESUR PATHFINDER**
MAR 97	MEDIUM	DELTA II	TBD	LUNAR	CCAFS	SCOUT-02**
MAY 97	MEDIUM	TITAN II	98.7	SS	VAFB	NOAA-L
MAY 97	MEDIUM	DELTA II**	TBD	LEO	VAFB	LAGEOS III**
JUN 97	SMALL	PEGASUS	TBD	TBD	WFF	SMEX-05
AUG 97	MEDIUM	DELTA II	TBD	HE	CCAFS	ACE
OCT 97	LARGE	TITAN IV /CENTAUR	TBD	PLAN	CCAFS	CASSINI
JUN 98	INTERMEDIATE	TBD	TBD	POLAR	VAFB	EOS-AM-1
JUN 98	SMALL	PEGASUS	TBD	TBD	WFF	SMEX-06
AUG 98	INTERMEDIATE	TBD	TBD	GTO	CCAFS	TDRS-F08
JUN 99	MEDIUM	TITAN II 31	98.7	SS	VAFB	NOAA-M

** FOR NASA PLANNING PURPOSES.

**** ELV PAYLOAD FLIGHT ASSIGNMENTS ****
APRIL 1993

DATE MO YR	CLASS	L A U N C H TYPE	V E H I C L E INCL	PAYLOAD ORBIT	LAUNCH SITE	PAYLOAD
AUG 99	INTERMEDIATE	TBD	TBD	GTO	CCAFS	TDRS-F09
SEP 99	MEDIUM	DELTA II	TBD	POLAR	VAFB	AXAF-S
AUG 00	INTERMEDIATE	TBD	TBD	GTO	CCAFS	TDRS-F10

SECTION 4

PREVIOUS FLIGHTS

**** PREVIOUS SHUTTLE FLIGHTS ****

FLT	DATE ORBITER	INCL ALT	CRW DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
1	12-APR-81 COLUMBIA	40.3 145	2 2	DFI-01	DFI PAL	OEX-01	CDR:JOHN W. YOUNG PLT:ROBERT L. CRIPPEN
2	12-NOV-81 COLUMBIA	38.0 137	2 2	OSTA-01 DFI-02 IECM-01	PAL DFI PAL UNIQUE	OEX-02	CDR:JOE H. ENGLE PLT:RICHARD H. TRULY
3	22-MAR-82 COLUMBIA	38.0 128	2 8	OSS-01 DFI-03 IECM-02 GAS TEST	PAL DFI PAL UNIQUE GAS CAN	OEX-03 MLR-01 EEVT SE-81-08	CDR:JACK R. LOUSMA PLT:C. GORDON FULLERTON
4	27-JUN-82 COLUMBIA	28.5 139	2 7	DOD 82-01 DFI-04 IECM-03 GAS(1)	DFI PAL UNIQUE GAS CAN	OEX-04 MLR-02 CFES-01 NOSL-01 SE-81-04 SE-81-06	CDR:THOMAS K. MATTINGLY PLT:HENRY W. HARTSFIELD
5	11-NOV-82 COLUMBIA	28.5 162	4 5	SBS-C TELESAT-E GAS(1)	PAM-D PAM-D GAS CAN	ISAL SE-81-02 SE-81-05 SE-81-09	CDR:VANCE D. BRAND PLT:ROBERT F. OVERMYER MS:JOSEPH P. ALLEN MS:WILLIAM B. LENOIR
6	4-APR-83 CHALLENGER	28.5 155	4 5	TDRS-A GAS(3)	IUS GAS CAN	CFES-02 MLR-03 NOSL-02	CDR:PAUL J. WEITZ PLT:KAROL J. BOBKO MS:F. STORY MUSGRAVE MS:DONALD H. PETERSON

**** PREVIOUS SHUTTLE FLIGHTS ****

FLT	DATE ORBITER	INCL ALT	CRW DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
7	18-JUN-83 CHALLENGER	28.5 161	5 6	SPAS-01 OSTA-02 TELESAT-F PALAPA-B1 GAS(7)	MPESS PAM-D PAM-D GAS CAN	CFES-03 MLR-04	CDR:ROBERT L. CRIPPEN PLT:FREDERICK H. HAUCK MS:JOHN M. FABIAN MS:SALLY K. RIDE MS:NORMAN E. THAGARD
8	30-AUG-83 CHALLENGER	28.5 161	5 6	PDRS/PFTA OIM INSAT 1-B GAS(4)	PAM-D GAS CAN	CFES-04 RME-01 SE-81-01	CDR:RICHARD H. TRULY PLT:DANIEL C. BRANDENSTEIN MS:GUION S. BLUFORD, JR. MS:DALE A. GARDNER MS:WILLIAM E. THORNTON
9	28-NOV-83 COLUMBIA	57.0 137	6 10	SPACELAB-01	LM+PAL		CDR:JOHN W. YOUNG PLT:BREWSTER H. SHAW, JR. MS:OWEN K. GARRIOTT MS:ROBERT A. R. PARKER PS:BYRON K. LICHTENBERG PS:ULF MERBOLD
10 41-B	3-FEB-84 CHALLENGER	28.5 166	5 8	SPAS-01A PALAPA B-2 WESTAR-VI C-360b-01 GAS(5) IRT	PAM-D PAM-D GAS CAN GAS CAN UNIQUE	ACES C-360c RME-02 IEF-01 MLR-05 SE-81-10	CDR:VANCE D. BRAND PLT:ROBERT L. GIBSON MS:BRUCE MCCANDLESS II MS:RONALD E. MCNAIR MS:ROBERT L. STEWART

**** PREVIOUS SHUTTLE FLIGHTS ****

FLT	DATE ORBITER	INCL ALT	CRW DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
11 41-C	6-APR-84 CHALLENGER	28.5 252	5 7	LDEF-01 SMRM C-360b-02	FSS GAS CAN	RME-03 SE-82-17 IMAX-01	CDR:ROBERT L. CRIPPEN PLT:FRANCIS R. SCOBEE MS:TERRY J. HART MS:JAMES D. VAN HOF TEN MS:GEORGE D. NELSON
12 41-D	30-AUG-84 DISCOVERY	28.5 162	6 6	OAST-01 SBS-D TELSTAR 3-C SYNCOM IV-02	MPRESS PAM-D PAM-D	CFES-05 IMAX-02 RME-04 CLOUDS SE-82-14	CDR:HENRY W. HARTSFIELD PLT:MICHAEL L. COATS MS:STEVEN A. HAWLEY MS:RICHARD M. MULLANE MS:JUDITH A. RESNIK PS:CHARLES WALKER
13 41-G	5-OCT-84 CHALLENGER	57.0 192	7 8	OSTA-03 ERBS LFC ORS GAS(8)	PAL MPRESS MPRESS GAS CAN	IMAX-03 RME-05 TLD APE-01 CANEX	CDR:ROBERT L. CRIPPEN PLT:JON A. MCBRIDE MS:DAVID C. LEESTMA MS:SALLY K. RIDE MS:KATHRYN D. SULLIVAN PS:MARC GARNEAU PS:PAUL D. SCULLY-POWER
14 51-A	8-NOV-84 DISCOVERY	28.5 161	5 8	HS-376 RETV-P HS-376 RETV-W TELESAT-H SYNCOM IV-01	PAL PAL PAM-D	DMOS-01 RME-06	CDR:FREDERICK H. HAUCK PLT:DAVID M. WALKER MS:JOSEPH P. ALLEN MS:ANNA L. FISHER MS:DALE A. GARDNER

**** PREVIOUS SHUTTLE FLIGHTS ****

FLT	DATE ORBITER	INCL ALT	CRW DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
15 51-C	24-JAN-85 DISCOVERY	XX X	5 3	DOD			CDR:THOMAS K. MATTINGLY PLT:LOREN J. SHRIVER MS:JAMES F. BUCHLI MS:ELLISON S. ONIZUKA PS:GARY E. PAYTON
16 51-D	12-APR-85 DISCOVERY	28.5 249	7 7	TELESAT-I SYNCOM IV-03 CFES-06 GAS(2)	PAM-D UNIQUE GAS CAN	AFE-01 PPE-01 SE-82-03 SE-83-03 SAS	CDR:KAROL J. BOBKO PLT:DONALD E. WILLIAMS MS:S. DAVID GRIGGS MS:JEFFREY A. HOFFMAN MS:M. RHEA SEDDON PS:E. JAKE GARN PS:CHARLES WALKER
17 51-B	29-APR-85 CHALLENGER	57.0 192	7 7	SPACELAB-03 GLOMR NUSAT	LM+MPSS GAS CAN GAS CAN		CDR:ROBERT F. OVERMYER PLT:FREDERICK D. GREGORY MS:DON L. LIND MS:NORMAN E. THAGARD MS:WILLIAM E. THORNTON PS:LODWIJK VAN DEN BERG PS:TAYLOR G. WANG
18 51-G	17-JUN-85 DISCOVERY	28.5 192	7 7	SPTN-01 MORELOS-A ARABSAT-1B TELSTAR 3-D GAS(6)	MPSS PAM-D PAM-D PAM-D GAS CAN	FEE FPE ADSF-01 HPTE	CDR:DANIEL C. BRANDENSTEIN PLT:JOHN O. CREIGHTON MS:JOHN M. FABIAN MS:SHANNON W. LUCID MS:STEVEN R. NAGEL PS:SULTAN S. AL-SAUD PS:PATRICK BAUDRY

**** PREVIOUS SHUTTLE FLIGHTS ****

FLT	DATE ORBITER	INCL ALT	CRM DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
19 51-F	29-JUL-85 CHALLENGER	50.0 173	7 8	SPACELAB-02	IG+3-PAL	SAREX SLSTP-01 CBDE	CDR:C. GORDON FULLERTON PLT:ROY D. BRIDGES MS:ANTHONY W. ENGLAND MS:KARL G. HENIZE MS:F. STORY MUSGRAVE PS:LOREN W. ACTON PS:JOHN-DAVID F. BARTOE
20 51-I	27-AUG-85 DISCOVERY	28.5 191	5 7	AUSSAT-01 ASC-01 SYNCOM IV-04 SYNCOM-SALVAGE	PAM-D PAM-D	PVTOS	CDR:JOE H. ENGLE PLT:RICHARD O. COVEY MS:WILLIAM F. FISHER MS:JOHN M. LOUNGE MS:JAMES D. VAN HOFTEN
21 51-J	3-OCT-85 ATLANTIS	XX X	5 4	DOD			CDR:KAROL J. BOBKO PLT:RONALD J. GRABE MS:DAVID C. HILMERS MS:ROBERT L. STEWART PS:WILLIAM A. PAILES
22 61-A	30-OCT-85 CHALLENGER	57.0 179	8 7	SPACELAB D-1 GLOMR	LM GAS CAN		CDR:HENRY W. HARTSFIELD PLT:STEVEN R. NAGEL MS:GUYON S. BLUFORD, JR. MS:JAMES F. BUCHLI MS:BONNIE J. DUNBAR PS:REINHARD FURRER PS:ERNST W. MESSERSCHMID PS:WUBBO J. OCKELS

**** PREVIOUS SHUTTLE FLIGHTS ****

FLT	DATE ORBITER	INCL ALT	CRW DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
23 61-B	26-NOV-85 ATLANTIS	28.5 191	7 7	EASE/ACCESS MORELOS-B SATCOM KU-02 AUSSAT-02 GAS(1) CFES-07 ICBC-01	MPESS PAM-D PAM-D2 PAM-D GAS CAN UNIQUE UNIQUE	DMOS-02 MPSE	CDR:BREWSTER H. SHAW, JR. PLT:BRYAN D. O'CONNOR MS:MARY L. CLEAVE MS:JERRY L. ROSS MS:SHERWOOD C. SPRING PS:RUDOLFO NERI VELA PS:CHARLES WALKER
24 61-C	12-JAN-86 COLUMBIA	28.5 176	7 6	MSL-02 SATCOM KU-01 GBA(12) HH-G1 GAS(1)	MPESS PAM-D2 GBA HH-G GAS CAN	IR-IE HPCG IBSE CHAMP-01 SE-82-19 SE-83-04 SE-83-06	CDR:ROBERT L. GIBSON PLT:CHARLES F. BOLDEN MS:FRANKLIN R. CHANG-DIAZ MS:STEVEN A. HAWLEY MS:GEORGE D. NELSON PS:ROBERT CENKER PS:BILL NELSON
25 51-L	28-JAN-86 CHALLENGER	- -	7 -	SPTN-HALLEY TDRS-B	MPESS IUS	TISP-01 FDE CHAMP-02 RME II-01 PPE-02 SE-82-04 SE-82-05 SE-82-09	CDR:FRANCIS R. SCOBEE PLT:MICHAEL J. SMITH MS:RONALD E. MCNAIR MS:ELLISON S. ONIZUKA MS:JUDITH A. RESNIK PS:GREGORY JARVIS SFP:CHRISTA MCAULIFFE

**** PREVIOUS SHUTTLE FLIGHTS ****

FLT	DATE ORBITER	INCL ALT	CRM DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
26	29-SEP-88 DISCOVERY	28.5 162	5 4	TDRS-C OASIS I-01	IUS UNIQUE	ADSF-02 PVTOS-02 IRCFE SE-82-04 PCG-11-01 IEF-02 ARC-02 MLE-01 ELRAD SE-82-05 PPE-03	CDR:FREDERICK H. HAUCK PLT:RICHARD O. COVEY MS:DAVID C. HILMERS MS:JOHN M. LOUNGE MS:GEORGE D. NELSON
27	2-DEC-88 ATLANTIS	XX X	5 4	DOD			CDR:ROBERT L. GIBSON PLT:GUY S. GARDNER MS:RICHARD M. MULLANE MS:JERRY L. ROSS MS:WILLIAM M. SHEPHERD
29	13-MAR-89 DISCOVERY	28.5 163	5 5	TDRS-D SHARE OASIS I-02	IUS UNIQUE UNIQUE	IMAX-04 SE-83-09 PCG-111-01 CHROMEX-01 SE-82-08 AMOS-01	CDR:MICHAEL L. COATS PLT:JOHN E. BLAHA MS:JAMES P. BAGIAN MS:JAMES F. BUCHLI MS:ROBERT C. SPRINGER

***** PREVIOUS SHUTTLE FLIGHTS *****

FLT	DATE ORBITER	INCL ALT	CRW DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
30	4-MAY-89 ATLANTIS	28.9 161	5 4	MAGELLAN	IUS	FEA-01 MLE-02 AMOS-02	CDR:DAVID M. WALKER PLT:RONALD J. GRABE MS:MARY L. CLEAVE MS:MARK C. LEE MS:NORMAN E. THAGARD
28	8-AUG-89 COLUMBIA	XX X	5 5	DOD			CDR:BREWSTER H. SHAW, JR. PLT:RICHARD N. RICHARDS MS:JAMES C. ADAMSON MS:MARK N. BROWN MS:DAVID C. LEESTMA
34	18-OCT-89 ATLANTIS	34.3 162	5 5	GALILEO SSBUV-01	IUS UNIQUE	IMAX-05 SE-82-15 GHCD PM-01 MLE-03 STEX AMOS-03	CDR:DONALD E. WILLIAMS PLT:MICHAEL J. MCCULLEY MS:ELLEN S. BAKER MS:FRANKLIN R. CHANG-DIAZ MS:SHANNON W. LUCID
33	22-NOV-89 DISCOVERY	XX X	5 5	DOD			CDR:FREDERICK D. GREGORY PLT:JOHN E. BLAHA MS:MANLEY L. CARTER, JR. MS:F. STORY MUSGRAVE MS:KATHRYN C. THORNTON

**** PREVIOUS SHUTTLE FLIGHTS ****

FLT	DATE ORBITER	INCL ALT	CRW DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
32	9-JAN-90 COLUMBIA	28.5 193	5 11	SYNCOM IV-05 LDEF-RETR IOCM-01	UNIQUE NONE UNIQUE	IMAX-06 CNCR PCG-111-02 FEA-02 AFE-02 MLE-04 L3 AMOS-04	CDR:DANIEL C. BRANDENSTEIN PLT:JAMES D. WETHERBEE MS:BONNIE J. DUNBAR MS:MARSHA S. IVINS MS:G. DAVID LOW
36	28-FEB-90 ATLANTIS	XX X	5 5	DOD			CDR:JOHN O. CREIGHTON PLT:JOHN H. CASPER MS:DAVID C. HILMERS MS:RICHARD M. MULLANE MS:PIERRE J. THUOT
31	24-APR-90 DISCOVERY	28.5 330	5 5	HST APM-01 ICBC-02	NONE UNIQUE UNIQUE	IMAX-07 SE-82-16 RME 111-01 AMOS-05 IPMP-01 PCG-111-03	CDR:LOREN J. SHRIVER PLT:CHARLES F. BOLDEN MS:STEVEN A. HAWLEY MS:BRUCE MCCANDLESS II MS:KATHRYN D. SULLIVAN
41	6-OCT-90 DISCOVERY	28.5 160	5 4	ULYSSES SSBIV-02 ISAC	IUS/PAM UNIQUE UNIQUE	SSCE-01 CHROMEX-02 VCS IPMP-02 PSE-01 RME 111-02 AMOS-06	CDR:RICHARD N. RICHARDS PLT:ROBERT D. CABANA MS:THOMAS D. AKERS MS:BRUCE E. MELNICK MS:WILLIAM M. SHEPHERD

**** PREVIOUS SHUTTLE FLIGHTS ****

FLT	DATE ORBITER	INCL ALT	CRW DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
38	15-NOV-90 ATLANTIS	XX X	5 5	DOD			CDR: RICHARD O. COVEY PLT: FRANK L. CULBERTSON MS: CHARLES D. GEMAR MS: CARL J. MEADE MS: ROBERT C. SPRINGER
35	2-DEC-90 COLUMBIA	28.5 190	7 9	ASTRO-01 BBXRT-01	IG+2-PAL TAPS	SAREX II-01 AMOS-07 UVPI-01	CDR: VANCE D. BRAND PLT: GUY S. GARDNER MS: JEFFREY A. HOFFMAN MS: JOHN M. LOUNGE MS: ROBERT A. R. PARKER PS: SAMUEL T. DURRANCE PS: RONALD A. PARISE
37	5-APR-91 ATLANTIS	28.5 244	5 6	GRO CETA APM-02	NONE UNIQUE UNIQUE	AMOS-08 BIMDA-01 PCG-III-04 RME III-03 SAREX II-02	CDR: STEVEN R. NAGEL PLT: KENNETH D. CAMERON MS: JAY APT MS: LINDA M. GODWIN MS: JERRY L. ROSS
39	28-APR-91 DISCOVERY	57.0 140	7 8	IBSS AFP-675 STP-01 MPEC-01	SPAS PAL HH-M UNIQUE	CLOUDS-1A-1 RME III-04 UVPI-02	CDR: MICHAEL L. COATS PLT: L. BLAINE HAMMOND, JR. MS: GUION S. BLUFORD, JR. MS: GREGORY J. HARBAUGH MS: RICHARD J. HIEB MS: DONALD R. MCMONAGLE MS: CHARLES LACY VEACH

**** PREVIOUS SHUTTLE FLIGHTS ****

FLT	DATE ORBITER	INCL ALT	CRM DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
40	5-JUN-91 COLUMBIA	39.0 161	7 9	SLS-01 GBA(12)	LM GBA	MODE-A	CDR:BRYAN D. O'CONNOR PLT:SIDNEY M. GUTIERREZ MS:JAMES P. BAGIAN MS:TAMARA E. JERNIGAN MS:M. RHEA SEDDON PS:F. DREW GAFFNEY PS:MILLIE HUGHES-FULFORD
43	2-AUG-91 ATLANTIS	28.5 161	5 9	TDRS-E SSBUV-03 SHARE II OCTW-01 TPCE-01	IUS UNIQUE UNIQUE UNIQUE CAP/SW	SSCE-02 BIMDA-02 SAMS-01 PCG-III-05 IPMP-03 AMOS-09 APE-B-01 UVPI-03	CDR:JOHN E. BLAHA PLT:MICHAEL A. BAKER MS:JAMES C. ADAMSON MS:G. DAVID LOW MS:SHANNON W. LUCID
48	12-SEP-91 DISCOVERY	57.0 292	5 6	UARS APM-03	UNIQUE UNIQUE	AMOS-10 PCG-II-02 RME III-05 PARE-01 MODE-B CREAM-01 IPMP-04 SAM-02	CDR:JOHN O. CREIGHTON PLT:KENNETH S. REIGHTLER, JR. MS:MARK N. BROWN MS:JAMES F. BUCHLI MS:CHARLES D. "SAM" GEMAR

**** PREVIOUS SHUTTLE FLIGHTS ****

FLT	DATE ORBITER	INCL ALT	CRW DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
44	24-NOV-91 ATLANTIS	28.5 195	6 7	DSP IOCM-02	IUS UNIQUE	M88-1 CREAM-02 SAM-01 RME III-06 VFT-1-01 TERRA SCOUT AMOS-11 UVPI-04	CDR:FREDERICK D. GREGORY PLT:TERENCE T. HENRICKS MS:F. STORY MUSGRAVE MS:MARIO RUNCO, JR. MS:JAMES S. VOSS PS:THOMAS J. HENNEN
42	22-JAN-92 DISCOVERY	57.0 162	7 8	IML-01 GBA(10)	LM GBA	GOSAMR-01 SE-83-02 SE-81-09 IPMP-05 RME III-07 UVPI-05	CDR:RONALD J. GRABE PLT:STEPHEN S. OSWALD MS (PLC):NORMAN E. THAGARD MS:DAVID C. HILMERS MS:WILLIAM F. READDY PS:ROBERTA L. BONDAR PS:ULF D. MERBOLD
45	24-MAR-92 ATLANTIS	57.0 160	7 9	ATLAS-01 SSBUV/A-01 GAS(1)	IG+2-PAL UNIQUE GAS CAN	STL-01 RME III-08 VFT-2-01 CLOUDS-1A-2 SAREX II-03 IPMP-06 UVPI-06	CDR:CHARLES F. BOLDEN PLT:BRIAN DUFFY MS (PLC):KATHRYN D. SULLIVAN MS:C. MICHAEL FOALE MS:DAVID C. LEESTMA PS:DIRK D. FRIMOUT PS:BYRON K. LICHTENBERG

**** PREVIOUS SHUTTLE FLIGHTS ****

FLT	DATE ORBITER	INCL ALT	CRM DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
49	7-MAY-92 ENDEAVOUR	28.3 183	7 9	INTELSAT-VI-R ASEM	UNIQUE MPESS	CPCG-01 AMOS-12 UVPI-07	CDR:DANIEL C. BRANDENSTEIN PLT:KEVIN P. CHILTON MS:THOMAS D. AKERS MS:RICHARD J. HIEB MS:BRUCE E. MELNICK MS:KATHRYN C. THORNTON MS:PIERRE J. THUOT
50	25-JUN-92 COLUMBIA	28.5 160	7 14	USML-01	LM+EDO	IPMP-07 UVPI-08 SAREX II-04	CDR:RICHARD N. RICHARDS PLT:KENNETH D. BOWERSOX MS (PLC):BONNIE J. DUNBAR MS:ELLEN S. BAKER MS:CARL J. MEADE PS:LAWRENCE J. DELUCAS PS:EUGENE H. TRINH
46	31-JUL-92 ATLANTIS	28.5 230	7 7	TSS-01 EURECA-1L ICBC-03 EOIM-III/TEMP2A-03 CONCAP II-01 CONCAP III-01 LDCE-01	PAL+MPESS EURECA-A UNIQUE MPESS CAP/SM CAP/SM CAP/SM	PHCF-01 UVPI-09	CDR:LOREN J. SHRIVER PLT:ANDREW M. ALLEN MS (PLC):JEFFREY A. HOFFMAN MS:FRANKLIN R. CHANG-DIAZ MS:MARSHA S. IVINS MS:CLAUDE NICOLLIER PS:FRANCO MALERBA

**** PREVIOUS SHUTTLE FLIGHTS ****

FLT	DATE ORBITER	INCL ALT	CRW DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
47	12-SEP-92 ENDEAVOUR	57.0 163	7 7	SL-J GBA(9)	LM GBA	ISIAIH SAREX II-05 SSCE-03	CDR:ROBERT L. GIBSON PLT:CURTIS L. BROWN, JR. MS (PLC):MARK C. LEE MS:JEROME APT MS:N. JAN DAVIS MS:MAE C. JEMISON PS:MAMORU MOHRI
52	22-OCT-92 COLUMBIA	28.5 160	6 10	LAGEOS II USMP-01 ASP CANEX-02 TPCE-02	IRIS USMP HH-G UNIQUE CAP/SW	CMIX-01 CPCG-02 CVTE-01 HPP PSE-02 SPIE	CDR:JAMES D. WETHERBEE PLT:MICHAEL A. BAKER MS:TAMARA E. JERNIGAN MS:WILLIAM M. SHEPHERD MS:CHARLES LACY VEACH PS:STEVEN G. MACLEAN
53	2-DEC-92 DISCOVERY	57.0 200	5 7	DOD-1 GCP ODERACS-01	UNIQUE HH-G CAP/SW	BLAST-01 CLOUDS-1A-3 CREAM-03 FARE-01 HERCULES-01 MIS I-01 RME III-09 STL-02 VFT-2-02	CDR:DAVID M. WALKER PLT:ROBERT D. CABANA MS:GUION S. BLUFORD MS:MICHAEL R. U. CLIFFORD MS:JAMES S. VOSS

**** PREVIOUS SHUTTLE FLIGHTS ****

FLT	DATE ORBITER	INCL ALT	CRM DUR	CARGO BAY PAYLOADS	CARRIER	MIDDECK PAYLOADS	CREW ASSIGNMENT
54	13-JAN-93 ENDEAVOUR	28.5 160	5 6	TDRS-F DXS	IUS HH-G	CGBA-01 CHROMEX-03 PARE-02 SSCE-04	CDR: JOHN H. CASPER PLT: DONALD R. MCMONAGLE MS: GREGORY J. HARBAUGH MS: SUSAN J. HELMS MS: MARIO RUNCO, JR.
56	8-APR-93 DISCOVERY	57.0 160	5 9	ATLAS-02 SSBUV/A-02 SPTN 201-01 SUVE	IG+1-PAL SSBUV/A SPARTAN CAP/SW	CMIX-02 HERCULES-02 PARE-03 RME III-10 SAREX II-06 STL-03 CREAM-04 AMOS-13	CDR: KENNETH D. CAMERON PLT: STEPHEN S. OSWALD MS: KENNETH D. COCKRELL MS: C. MICHAEL FOALE MS: ELLEN OCHOA
55	26-APR-93 COLUMBIA	28.5 160	7 9	SL-D2	LM+USS+2 CAP	SAREX II-07	CDR: STEVEN R. NAGEL PLT: TERENCE T. HENRICKS MS (PLC): JERRY L. ROSS MS: BERNARD A. HARRIS, JR. MS: CHARLES J. PRECOURT, JR. PS: HANS SCHLEGEL (GERMANY) PS: ULRICH WALTER (GERMANY)

**** PREVIOUS SCOUT VEHICLE FLIGHTS ****

PROGRAM INITIATION DATE: 1959 LAUNCHES TO DATE: 116
 FIRST FLIGHT: 1960 LAUNCH VEHICLE SUCCESSES: 102

LAST 20 FLIGHTS

LAUNCH DATE	FLIGHT NUMBER	SPACECRAFT	FINAL PAYLOAD ORBIT ACHIEVED	NOTES
27-OCT-77	S-200	NAVY	LEO	SUCCESS
26-APR-78	S-201	HCM	LEO	SUCCESS
18-FEB-79	S-202	SAGE	LEO	SUCCESS
2-JUN-79	S-198	UK-6	LEO	SUCCESS
30-OCT-79	S-203	MAGSAT	LEO	SUCCESS
14-MAY-81	S-192	NOVA I	LEO	SUCCESS
27-JUN-83	S-205	HILAT	LEO	SUCCESS
11-OCT-84	S-208	NOVA-III	LEO	SUCCESS
2-AUG-85	S-209	S00S-I	LEO	SUCCESS
12-DEC-85	S-207	AFIV	LEO	SUCCESS
13-NOV-86	S-199	AF POLAR BEAR	LEO	SUCCESS
16-SEP-87	S-204	S00S-II	LEO	SUCCESS
25-MAR-88	S-206	SAN MARCO-DL	LEO	SUCCESS
25-APR-88	S-211	S00S-III	LEO	SUCCESS
15-JUN-88	S-213	NOVA-II	LEO	SUCCESS
25-AUG-88	S-214	S00S-IV	LEO	SUCCESS
9-MAY-90	S-212	MACSAT	LEO	SUCCESS
29-JUN-91	S-216	REX	LEO	SUCCESS
3-JUL-92	S-215	SAMPEX	LEO	SUCCESS
21-NOV-92	S-210	MSTI-I	LEO	SUCCESS

**** PREVIOUS DELTA VEHICLE FLIGHTS ****

PROGRAM INITIATION DATE: 1959 LAUNCHES TO DATE: 218
 FIRST FLIGHT: 1960 LAUNCH VEHICLE SUCCESSES: 206

LAST 20 FLIGHTS

LAUNCH DATE	FLIGHT NUMBER	SPACECRAFT	FINAL PAYLOAD ORBIT ACHIEVED	NOTES
30-OCT-90 26-NOV-90 7-JAN-91 8-MAR-91 12-APR-91	200 201 202 203 204	INMARSAT-2/F1 NAVSTAR-10 NATO-IVA INMARSAT-2/F2 ASC-2/CONTEL	GSO GSO GSO GSO GSO	SUCCESS SUCCESS SUCCESS SUCCESS SUCCESS
29-MAY-91 3-JUL-91 23-FEB-92 9-APR-92 13-MAY-92	205 206 207 208 209	AURORA 11 NAVSTAR-11 NAVSTAR-12 NAVSTAR-13 PALAPA-B4	GSO GSO GSO GSO GSO	SUCCESS SUCCESS SUCCESS SUCCESS SUCCESS
7-JUN-92 7-JUL-92 24-JUL-92 31-AUG-92 9-SEP-92	210 211 212 213 214	EUVE NAVSTAR-14 GEOTAIL SATCOM C-4 NAVSTAR-15	LEO GSO HEEO GSO GSO	SUCCESS SUCCESS SUCCESS SUCCESS SUCCESS
12-OCT-92 22-NOV-92 18-DEC-92 2-FEB-93 29-MAR-93	215 216 217 218 219	DFS KOPERNIKUS NAVSTAR-16 NAVSTAR-17 NAVSTAR-18 GPS-1	GSO GSO GSO GSO GSO	SUCCESS SUCCESS SUCCESS SUCCESS SUCCESS

**** PREVIOUS ATLAS CENTAUR VEHICLE FLIGHTS ****

PROGRAM INITIATION DATE: 1958
 FIRST FLIGHT: 1962
 LAUNCHES TO DATE: 76
 LAUNCH VEHICLE SUCCESSES: 63

LAST 20 FLIGHTS

LAUNCH DATE	FLIGHT NUMBER	SPACECRAFT	FINAL PAYLOAD ORBIT ACHIEVED	NOTES
15-DEC-81	58	INTELSAT V	GSO	SUCCESS
4-MAR-82	59	INTELSAT V	GSO	SUCCESS
28-SEP-82	60	INTELSAT V	GSO	SUCCESS
19-MAY-83	61	INTELSAT V	GSO	SUCCESS
9-JUN-84	62	INTELSAT V	GSO	FAILURE
22-MAR-85	63	INTELSAT VA	GSO	SUCCESS
29-JUN-85	64	INTELSAT VA	GSO	SUCCESS
28-SEP-85	65	INTELSAT VA	GSO	SUCCESS
4-DEC-86	66	FLTSATCOM-7	GSO	SUCCESS
26-MAR-87	67	FLTSATCOM-6	GSO	FAILURE
25-SEP-89	68	FLTSATCOM-8	GSO	SUCCESS
25-JUL-90	69	CRRES	GTO	SUCCESS
18-APR-91	70	BS-3H		FAILURE
7-DEC-91	71	EUTELSAT II F3	GSO	SUCCESS
10-FEB-92	72	DSCS-3 F1	GSO	SUCCESS
13-MAR-92	73	GALAXY V	GSO	SUCCESS
9-JUN-92	74	INTELSAT-K	GSO	SUCCESS
2-JUL-92	75	DSCS-3 F2	GSO	SUCCESS
22-AUG-92	76	GALAXY 1R		FAILURE
25-MAR-93	77	UHF-F1		FAILURE

**** PREVIOUS COMMERCIAL TITAN III FLIGHTS ****

PROGRAM INITIATION DATE: 1987 LAUNCHES TO DATE: 4
 FIRST FLIGHT: 1989 LAUNCH VEHICLE SUCCESSES: 3

ALL FLIGHTS

LAUNCH DATE	FLIGHT NUMBER	SPACECRAFT	FINAL PAYLOAD ORBIT ACHIEVED	NOTES
31-DEC-89	1	JCSAT/SKYNET	GSO	SUCCESS
14-MAR-90	2	INTELSAT VI/F3	*	FAILURE
23-JUN-90	3	INTELSAT VI/F4	GSO	SUCCESS
25-SEP-92	4	MARS OBSERVER	PLANETARY	SUCCESS

*Retrieved by Space Shuttle Endeavour in May 1992 and successfully boosted into geosynchronous orbit.

SECTION 5

PAYLOAD REQUESTS

NOTES:

- 1. INCLUDES PRIMARY, COMPLEX SECONDARY, AND MANIFESTED NON-COMPLEX SECONDARY PAYLOADS.**
- 2. REQUEST DATE: LAUNCH DATE REQUESTED BY THE PAYLOAD ORGANIZATION**
- 3. FLIGHT DATE : LAUNCH DATE SHOWN IN THE MANIFEST.
IF NOT MANIFESTED, NO DATE IS GIVEN.**
- 4. SPACE STATION FLIGHTS ARE UNDER REVIEW PENDING COMPLETION OF SPACE STATION REDESIGN.**

**** PAYLOAD REQUESTS ****

PAYLOAD	CARRIER	REQ DATE	FLIGHT DATE	FLIGHT/VEHICLE	TYPE	SPONSOR
ACE ACTS AMOS-14 AMOS-15 AMOS-16	NONE TOS NONE NONE NONE	AUG 97 MAY 92 MAR 93 APR 93 MAY 93	AUG 93 JUN 93 AUG 93 DEC 93	DELTA II STS-51 STS-57 STS-51 STS-61	PRIMARY PRIMARY SECONDARY* SECONDARY* SECONDARY*	OSS MTPE DOD DOD DOD
AMOS-17 APCG-01 APE-B-02 APE-B-03 AR&C	NONE LOCKER LOCKER LOCKER ASTRO-SPAS	JUN 93 JAN 93 JUL 93 JUL 93 JUL 96	MAR 94 MAR 94 AUG 93 DEC 93	STS-62 STS-62 STS-51 STS-60 SHUTTLE	SECONDARY* SECONDARY* SECONDARY* SECONDARY* PRIMARY	DOD OSS DOD DOD OSSD
ARISTOTELES** ARTEMIS-F1** ARTEMIS-F2** ARTEMIS-F3** ARTEMIS-F4**	NONE NONE NONE NONE NONE	JUN 98 SEP 97 SEP 98 SEP 99 SEP 00		DELTA II** DELTA II DELTA II TBD** TBD**	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OSS OE OE OE OE
ASTRO-02 ASTROMAG** ATLAS-03 ATLAS-04** ATLAS-05**	IG+2-PAL+EDO TBD IG+1-PAL IG+1-PAL IG+1-PAL	OCT 93 JAN 01 JAN 94 JAN 95 JAN 96	NOV 94 SEP 94	STS-67 INTERMEDIATE** STS-66 SHUTTLE SHUTTLE	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OLMSA/OSS OSS OLMSA/MTPE OLMSA/MTPE OLMSA/MTPE
ATLAS-06** AXAF-I AXAF-R1 AXAF-R2 AXAF-R3	IG+1-PAL NONE FSS FSS FSS	JAN 97 MAR 99 APR 02 APR 07 APR 12		SHUTTLE TBD SHUTTLE SHUTTLE SHUTTLE	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OLMSA/MTPE OSS OSS OSS OSS

* NON-COMPLEX SECONDARY PAYLOAD
** FOR NASA PLANNING PURPOSES (NOT CURRENTLY BUDGETED)

**** PAYLOAD REQUESTS ****

PAYLOAD	CARRIER	REQ DATE	FLIGHT DATE	FLIGHT/VEHICLE	TYPE	SPONSOR
AXAF-S BREMSAT CAPL-02 CAPL/GBA CASSINI	NONE GBA HH-M GBA CENTAUR	SEP 99 SEP 92 OCT 94 OCT 93 OCT 97	DEC 93 DEC 93	DELIA II STS-60 SHUTTLE STS-60 TITAN IV	PRIMARY SECONDARY* SECONDARY SECONDARY PRIMARY	OSS DLR MTPE MTPE OSS
CGBA-02 CHROMEX-04 CMSE-01 CMSE-02 CMSE-03	LOCKER LOCKER HH-G HH-G HH-G	APR 94 JUL 93 JUN 95 MAR 96 DEC 96	MAR 94 AUG 93 JUL 95	STS-62 STS-51 STS-72 SHUTTLE SHUTTLE	SECONDARY* SECONDARY* SECONDARY SECONDARY SECONDARY	OACT OLMSA OACT OACT OACT
CMSE-04 CONCAP IV-01 CONE CPCG-03 CPCG-04	HH-G CAP/GBA HH-M LOCKER LOCKER	SEP 97 APR 93 JUL 96 APR 93 JAN 94	JUN 93 AUG 93 MAR 94	SHUTTLE STS-57 SHUTTLE STS-51 STS-62	SECONDARY SECONDARY* SECONDARY SECONDARY* SECONDARY*	OACT OACT OACT OACT OACT
CRISTA-SPAS-01 CRISTA-SPAS-02 CRYOGENIC SYS CSE DEBRIS	ASTRO-SPAS ASTRO-SPAS HH-G HH-G PAL	JAN 94 APR 96 JUL 94 APR 94 OCT 96	SEP 94	STS-66 SHUTTLE SHUTTLE SHUTTLE SHUTTLE	PRIMARY PRIMARY SECONDARY SECONDARY SECONDARY	OLMSA/MTPE OLMSA/MTPE OACT OACT OACT
DEE EOS-AERO-1 EOS-AERO-2 EOS-ALT-1 EOS-ALT-2	GAS BEAM NONE NONE NONE NONE	NOV 92 JAN 00 JAN 03 JAN 02 JAN 07	MAR 94	STS-62 PEGASUS** SMALL** MEDIUM** MEDIUM**	SECONDARY PRIMARY PRIMARY PRIMARY PRIMARY	OSSD OSS OSS OSS OSS

* NON-COMPLEX SECONDARY PAYLOAD

** FOR NASA PLANNING PURPOSES (NOT CURRENTLY BUDGETED)

**** PAYLOAD REQUESTS ****

PAYLOAD	CARRIER	REQ DATE	FLIGHT DATE	FLIGHT/VEHICLE	TYPE	SPONSOR
EOS-AM-1 EOS-AM-2 EOS-CHEM-1 EOS-CHEM-2 EOS-PM-1	NONE NONE NONE NONE NONE	JUN 98 JUN 03 JAN 02 JAN 07 DEC 00		INTERMEDIATE INTERMEDIATE** INTERMEDIATE INTERMEDIATE** INTERMEDIATE	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OSS OSS OSS OSS OSS
EOS-PM-2 EOS/SAR** EURECA-1R EURECA-2L EURECA-2R	NONE NONE EURECA-A EURECA-A EURECA-A	DEC 05 DEC 00 MAR 91 DEC 94 JUL 95	JUN 93	INTERMEDIATE** MEDIUM** STS-57 SHUTTLE SHUTTLE	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OSS OSS ESA OLMSA/OSS OLMSA/OSS
FARE-02 FAST FUSE GOES-I GOES-J	LOCKER NONE NONE NONE NONE	APR 93 AUG 94 DEC 00 APR 94 MAR 95	JUN 93	STS-57 PEGASUS DELTA II ATLAS I ATLAS I	SECONDARY* PRIMARY PRIMARY PRIMARY PRIMARY	OSF OSS OSS OSS OSS
GOES-K GOES-L GOES-M GP-B GTC**	NONE NONE NONE NONE TBD	APR 99 APR 00 APR 05 DEC 00 JAN 01		ATLAS I INTERMEDIATE** INTERMEDIATE** DELTA II INTERMEDIATE**	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OSS OSS OSS OSS OSS
HESP** HETE HRSGS-A-01 HST SM-01 HST SM-02	TBD NONE LOCKER FSS+UNIQUE FSS+UNIQUE	JAN 99 DEC 94 AUG 93 NOV 93 NOV 96	AUG 93 DEC 93	DELTA II** PEGASUS STS-51 STS-61 SHUTTLE	PRIMARY PRIMARY SECONDARY* PRIMARY PRIMARY	OSS OSS DOD OSS OSS

* NON-COMPLEX SECONDARY PAYLOAD
** FOR NASA PLANNING PURPOSES (NOT CURRENTLY BUDGETED)

**** PAYLOAD REQUESTS ****

PAYLOAD	CARRIER	REQ DATE	FLIGHT DATE	FLIGHT/VEHICLE	TYPE	SPONSOR
HST SM-03	FSS+UNIQUE	NOV 99		SHUTTLE	PRIMARY	OSS
HST SM-04	FSS+UNIQUE	NOV 02		SHUTTLE	PRIMARY	OSS
HST SM-05	FSS+UNIQUE	NOV 05		SHUTTLE	PRIMARY	OSS
HST SM-06	FSS+UNIQUE	NOV 08		SHUTTLE	PRIMARY	OSS
IAE	SPARTAN	JUL 95		SHUTTLE	SECONDARY	OACT
IAM**	TBD**	JUN 02		INTERMEDIATE**	PRIMARY	OSS
ICBC-04	ICBC	***	DEC 93	STS-61	***	OPA
ICBC-SFU**	ICBC	***		SHUTTLE	***	OPA
IEH-01	HH-M	APR 94	JUN 94	STS-63	SECONDARY	OSS
IEH-02	HH-M	MAR 95	MAY 95	STS-70	SECONDARY	OSS
IEH-03	HH-M	APR 96		SHUTTLE	SECONDARY	OSS
IEH-04	HH-M	MAY 97		SHUTTLE	SECONDARY	OSS
IEH-05	HH-M	JUN 98		SHUTTLE	SECONDARY	OSS
IMAX-08	LOCKER	***	AUG 93	STS-51	***	OPA
IMAX-09	LOCKER	***	DEC 93	STS-61	***	OPA
IMI**	TBD	JAN 00		MEDIUM**	PRIMARY	OSS
IML-02	LM+EDO	JAN 93	JUL 94	STS-65	PRIMARY	OLMSA
INTEGRAL**	TBD	JUN 00		INTERMEDIATE**	PRIMARY	OSS
IPMP-08	LOCKER	APR 93	AUG 93	STS-51	SECONDARY*	OACT
ISEM-01	HH-M	OCT 95		SHUTTLE	SECONDARY	OACT
ISEM-02	HH-M	OCT 96		SHUTTLE	SECONDARY	OACT
ISF-01	FM+DS	JUL 97		SHUTTLE	PRIMARY	SII
ISF-02	AM+DS	JAN 98		SHUTTLE	PRIMARY	SII
ISF-03	FM+DS	JAN 99		SHUTTLE	PRIMARY	SII
JFD	MPESS	JUN 96		SHUTTLE	PRIMARY	NASDA

* NON-COMPLEX SECONDARY PAYLOAD

** FOR NASA PLANNING PURPOSES (NOT CURRENTLY BUDGETED)

*** IMAX REQUEST TO FLY WITH DESIGNATED PAYLOAD.

**** PAYLOAD REQUESTS ****

PAYLOAD	CARRIER	REQ DATE	FLIGHT DATE	FLIGHT/VEHICLE	TYPE	SPONSOR
LAGEOS III** LDCE-02 LDCE-03 LITE I LIT**	NONE CAP/SW CAP/SW PAL TBD	MAY 97 JUN 93 FEB 94 OCT 93 JAN 05	AUG 93 MAR 94 SEP 94	DELTA II** STS-51 STS-62 STS-64 TITAN IV**	PRIMARY SECONDARY* SECONDARY* PRIMARY PRIMARY	OSS OACT OACT OLMSA/MTPE OSS
MESUR F1** MESUR F2** MESUR F3** MESUR F4** MESUR P.F.**	NONE NONE NONE NONE NONE	JUN 98 JUL 98 JUN 02 JUL 02 NOV 96		DELTA II** DELTA II** DELTA II** DELTA II** DELTA II	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OSS OSS OSS OSS OSS
MODE-RFL MSL-01 MSTI-02 NEAR** NOAA-I	LOCKER LM+EDO NONE TBD NONE	MAY 93 NOV 97 OCT 93 JAN 96 JUN 93	MAR 94	STS-62 SHUTTLE SCOUT DELTA II ATLAS E	SECONDARY* PRIMARY PRIMARY PRIMARY PRIMARY	OACT OLMSA SDIO OSS OSS
NOAA-J NOAA-K NOAA-L NOAA-M NOAA-N	NONE NONE NONE NONE TBD	MAY 94 JUN 96 MAY 97 JUN 99 MAY 00		ATLAS E TITAN II TITAN II TITAN II MEDIUM	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OSS OSS OSS OSS OSS
OAST-02 OAST-03 OAST-04 OAST-05 OAST-FLYER	HH-M HH-M HH-M HH-M SPARTAN	JUL 93 JUL 95 JUN 96 JUN 96 JUL 94	MAR 94 SEP 95	STS-62 STS-73 SHUTTLE SHUTTLE STS-70	SECONDARY SECONDARY SECONDARY SECONDARY SECONDARY	OACT OACT OACT OACT OACT

* NON-COMPLEX SECONDARY PAYLOAD
** FOR NASA PLANNING PURPOSES (NOT CURRENTLY BUDGETED)

**** PAYLOAD REQUESTS ****

PAYLOAD	CARRIER	REQ DATE	FLIGHT DATE	FLIGHT/VEHICLE	TYPE	SPONSOR
ODERACS-1R ORFEUS-SPAS-01 ORFEUS-SPAS-02 ORSTED OSL**	GBA ASTRO-SPAS ASTRO-SPAS NONE TBD	OCT 92 FEB 93 APR 95 SEP 95 MAY 02	DEC 93 AUG 93	STS-60 STS-51 SHUTTLE DELTA II DELTA**	SECONDARY* PRIMARY PRIMARY SECONDARY PRIMARY	OSSD OLMSA/OSS OLMSA/OSS OSS OSS
PLUTO FLYBY** PLUTO FLYBY** PMG POLAR PSE-03 RADARSAT	CENTAUR** CENTAUR** NONE NONE LOCKER NONE	JAN 99 JAN 00 MAY 93 MAY 94 JAN 94 DEC 94	MAR 94	TITAN IV** TITAN IV** DELTA II DELTA II STS-62 DELTA II	PRIMARY PRIMARY SECONDARY PRIMARY SECONDARY* PRIMARY	OSS OSS OSSD OSS OACT OSS
RADCAL RME III-11 ROMPS-01 ROMPS-02** ROMPS-03**	NONE LOCKER HH-G HH-G HH-G	MAY 93 JUL 93 JAN 94 APR 95 APR 96	AUG 93	SCOUT STS-51 SHUTTLE SHUTTLE SHUTTLE	PRIMARY SECONDARY* SECONDARY SECONDARY SECONDARY	DOD DOD OACT OACT OACT
SAC-B SAREX II-07 SAREX II-08 SAREX II-09 SAREX II-10	NONE LOCKER LOCKER LOCKER LOCKER	DEC 94 APR 93 JUL 93 JAN 94 APR 94	APR 93 JUN 93 SEP 93 DEC 93	PEGASUS STS-55 STS-57 STS-58 STS-60	PRIMARY SECONDARY* SECONDARY* SECONDARY* SECONDARY*	OSS OC OC OC OC
SCOT SCOUT-01** SCOUT-02** SEDS II SEDSAT-1	NONE NONE NONE NONE NONE	DEC 94 APR 95 MAR 96 MAR 94 AUG 94		DELTA II DELTA II DELTA II DELTA II DELTA II	SECONDARY PRIMARY PRIMARY SECONDARY SECONDARY	OSC/OSS OE OE OSSD OSSD

* NON-COMPLEX SECONDARY PAYLOAD

** FOR NASA PLANNING PURPOSES (NOT CURRENTLY BUDGETED)

**** PAYLOAD REQUESTS ****

PAYLOAD	CARRIER	REQ DATE	FLIGHT DATE	FLIGHT/VEHICLE	TYPE	SPONSOR
SFU-RETR SHOOT SL-D2 SL-E1 SL-M	UNIQUE HH-M LM+USS+2 CAP LM+USS LM	AUG 95 SEP 92 SEP 92 SEP 94 JUN 95	JUN 93 APR 93 JUN 95	SHUTTLE STS-57 STS-55 SHUTTLE STS-71	PRIMARY SECONDARY PRIMARY PRIMARY PRIMARY	ISAS OSSD DLR OLMSA OSF/OLMSA
SLS-02 SLS-03 SLS-04 SLS-05** SMEX-04	LM+EDO LM+EDO LM+EDO LM+EDO NONE	MAY 93 OCT 95 OCT 97 JUL 99 JUN 96	SEP 93	STS-58 SHUTTLE SHUTTLE SHUTTLE PEGASUS	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OLMSA OLMSA OLMSA OLMSA OSS
SMEX-05 SMEX-06 SMEX-07 SMEX-08 SMEX-09**	NONE NONE NONE NONE NONE	JUN 97 JUN 98 JUN 99 JUN 00 JUN 01		PEGASUS PEGASUS PEGASUS PEGASUS SMALL**	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OSS OSS OSS OSS OSS
SMEX-10** SMEX-11** SMEX-12** SMEX-13** SMEX-14**	NONE NONE NONE NONE NONE	JUN 02 JUN 03 JUN 04 JUN 05 JUN 06		SMALL** SMALL** SMALL** SMALL** SMALL**	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OSS OSS OSS OSS OSS
SOHO SOLAR PROBE** SPACEHAB-01 SPACEHAB-02 SPACEHAB-03	CENTAUR CENTAUR/TBD** SPACEHAB SPACEHAB SPACEHAB	JUL 95 MAY 10 JAN 93 JUL 93 FEB 94	JUN 93 DEC 93 JUN 94	ATLAS IIAS LARGE** STS-57 STS-60 STS-63	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OSS OSS SPACEHAB SPACEHAB SPACEHAB

* NON-COMPLEX SECONDARY PAYLOAD
** FOR NASA PLANNING PURPOSES (NOT CURRENTLY BUDGETED)

**** PAYLOAD REQUESTS ****

PAYLOAD	CARRIER	REQ DATE	FLIGHT DATE	FLIGHT/VEHICLE	TYPE	SPONSOR
SPACEHAB-04	SPACEHAB	AUG 94	JAN 95	STS-69	PRIMARY	SPACEHAB
SPACEHAB-05	SPACEHAB	MAR 95	SEP 95	STS-73	PRIMARY	SPACEHAB
SPACEHAB-06	SPACEHAB	OCT 95		SHUTTLE	PRIMARY	SPACEHAB
SPACEHAB-07	SPACEHAB	APR 96		SHUTTLE	PRIMARY	SPACEHAB
SPACEHAB-08	SPACEHAB	NOV 96		SHUTTLE	PRIMARY	SPACEHAB
SPAS-III	SPAS+UNIQUE	JUN 94	JAN 95	STS-69	PRIMARY	DOD
SPTN 201-02	SPARTAN	JUN 94	JUN 94	STS-63	SECONDARY	OSS
SPTN 201-03	SPARTAN	JUN 95	SEP 95	STS-73	SECONDARY	OSS
SPTN 204	SPARTAN	SEP 93	SEP 94	STS-64	SECONDARY	OSS
SRL-01	PAL+MPRESS	SEP 93	APR 94	STS-59	PRIMARY	OLMSA/MTPE
SRL-02	PAL+MPRESS	SEP 94	DEC 94	STS-68	PRIMARY	OLMSA/MTPE
SRL-03**	PAL+MPRESS	JAN 96		SHUTTLE	PRIMARY	OLMSA/MTPE
SSBUV/A-03	SSBUV/A	OCT 94	MAR 94	STS-62	SECONDARY	MTPE
SSBUV/A-04	SSBUV/A	JUL 95	SEP 94	STS-66	SECONDARY	MTPE
SSBUV/A-05	SSBUV/A	APR 96	SEP 95	STS-73	SECONDARY	MTPE
SSBUV/A-06	SSBUV/A	JAN 97		SHUTTLE	SECONDARY	MTPE
SSBUV/A-07	SSBUV/A	OCT 97		SHUTTLE	SECONDARY	MTPE
SSBUV/A-08	SSBUV/A	JAN 99		SHUTTLE	SECONDARY	MTPE
SSBUV/A-09	SSBUV/A	JAN 00		SHUTTLE	SECONDARY	MTPE
SSBUV/A-10	SSBUV/A	JAN 01		SHUTTLE	SECONDARY	MTPE
SSF MB-01(FEL)	UNIQUE	MAR 96		SHUTTLE	PRIMARY	OSSD
SSF MB-02	UNIQUE	APR 96		SHUTTLE	PRIMARY	OSSD
SSF MB-03	UNIQUE	AUG 96		SHUTTLE	PRIMARY	OSSD
SSF MB-04	UNIQUE	DEC 96		SHUTTLE	PRIMARY	OSSD
SSF MB-05	UNIQUE	MAR 97		SHUTTLE	PRIMARY	OSSD

* NON-COMPLEX SECONDARY PAYLOAD
 ** FOR NASA PLANNING PURPOSES (NOT CURRENTLY BUDGETED)

**** PAYLOAD REQUESTS ****

PAYLOAD	CARRIER	REQ DATE	FLIGHT DATE	FLIGHT/VEHICLE	TYPE	SPONSOR
SSF MB-06(MTC) SSF MB-06A SSF MB-07 SSF MB-08 SSF MB-09	UNIQUE UNIQUE UNIQUE UNIQUE UNIQUE	JUN 96 SEP 97 DEC 97 MAR 98 JUN 98		SHUTTLE SHUTTLE SHUTTLE SHUTTLE SHUTTLE	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OSSD OSSD OSSD OSSD OSSD
SSF MB-10 SSF MB-11 SSF MB-12 SSF MB-13 SSF MB-14	UNIQUE UNIQUE UNIQUE UNIQUE UNIQUE	SEP 98 DEC 98 MAR 99 JUN 99 SEP 99		SHUTTLE SHUTTLE SHUTTLE SHUTTLE SHUTTLE	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OSSD OSSD OSSD OSSD OSSD
SSF MB-15 SSF MB-16 SSF MB-17(PMC) SSF MB-18 SSF UF-01	UNIQUE UNIQUE UNIQUE UNIQUE UNIQUE	DEC 99 MAR 00 JUN 00 SEP 00 FEB 98		SHUTTLE SHUTTLE SHUTTLE SHUTTLE SHUTTLE	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OSSD OSSD OSSD OSSD OSF/OSSD
SSF UF-02 SSF UF-03 SSF UF-04 SSF UF-05 SSF UF-06	UNIQUE UNIQUE UNIQUE UNIQUE UNIQUE	MAY 98 AUG 98 FEB 99 MAY 99 AUG 99		SHUTTLE SHUTTLE SHUTTLE SHUTTLE SHUTTLE	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OSF/OSSD OSF/OSSD OSF/OSSD OSF/OSSD OSF/OSSD
SSF UF-07 SSF UF-08 SMAS TDRS-F08 TDRS-F09	UNIQUE UNIQUE NONE TBD TBD	FEB 00 MAY 00 JUN 95 AUG 98 AUG 99		SHUTTLE SHUTTLE PEGASUS INTERMEDIATE INTERMEDIATE	PRIMARY PRIMARY PRIMARY PRIMARY PRIMARY	OSF/OSSD OSF/OSSD OSS OSC OSC

* NON-COMPLEX SECONDARY PAYLOAD
** FOR NASA PLANNING PURPOSES (NOT CURRENTLY BUDGETED)

**** PAYLOAD REQUESTS ****

PAYLOAD	CARRIER	REQ DATE	FLIGHT DATE	FLIGHT/VEHICLE	TYPE	SPONSOR
TDRS-F10	TBD	AUG 00	JUL 95	INTERMEDIATE	PRIMARY	OSC
TDRS-G	IUS	APR 95		STS-72	PRIMARY	OSC
TIMED-H**	TBD	JUN 99		MEDIUM**	PRIMARY	OSS
TIMED-L**	TBD	JUL 99		MEDIUM**	PRIMARY	OSS
TOMS-01	NONE	JUL 94			PRIMARY	OSS
TSS-02**	PAL+MPSS	OCT 94		SHUTTLE	PRIMARY	OSS/OSF
TSS-03**	PAL+MPSS	OCT 96		SHUTTLE	PRIMARY	OSS/OSF
USML-02	LM+EDO	SEP 94	SEP 95	STS-74	PRIMARY	OLMSA
USML-03	LM+EDO	SEP 97		SHUTTLE	PRIMARY	OLMSA
USML-04	LM+EDO	SEP 00		SHUTTLE	PRIMARY	OLMSA
USMP-02	2-MPSS+EDO	AUG 93	MAR 94	STS-62	PRIMARY	OLMSA
USMP-03	2-MPSS	AUG 94		SHUTTLE	PRIMARY	OLMSA
USMP-04	2-MPSS	AUG 95		SHUTTLE	PRIMARY	OLMSA
USMP-05	2-MPSS	AUG 96		SHUTTLE	PRIMARY	OLMSA
USMP-06**	2-MPSS	AUG 97		SHUTTLE	PRIMARY	OLMSA
USMP-07**	2-MPSS	AUG 98		SHUTTLE	PRIMARY	OLMSA
USMP-08**	2-MPSS	AUG 99		SHUTTLE	PRIMARY	OLMSA
USMP-09**	2-MPSS	AUG 00		SHUTTLE	PRIMARY	OLMSA
USMP-10**	2-MPSS	AUG 01		SHUTTLE	PRIMARY	OLMSA
WIND	NONE	FEB 94		DELTA II	PRIMARY	OSS
WSF-01	WSF	SEP 92	DEC 93	STS-60	PRIMARY	OACT
WSF-02	WSF	SEP 93	MAY 95	STS-70	PRIMARY	OACT
WSF-03	WSF	SEP 94		SHUTTLE	PRIMARY	OACT
WSF-04	WSF	SEP 95		SHUTTLE	PRIMARY	OACT
XTE	NONE	AUG 95		DELTA II	PRIMARY	OSS

* NON-COMPLEX SECONDARY PAYLOAD

** FOR NASA PLANNING PURPOSES (NOT CURRENTLY BUDGETED)

SECTION 6

PAYLOAD/ACRONYM LIST

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
ABFLF	Automated Bioreactor Feed/Lymphocytes Function	Testing Automated feed for Bioreactor in the space.
AC	Atlas Centaur	Intermediate Class Expendable Launch Vehicle.
ACE	Advanced Composition Explorer	Charged particle detector for study of isotopic and elemental composition of energetic particles in interplanetary science.
ACES	Acoustic Containerless Experiment System	Technical demonstration to obtain early microgravity tests of gas transport phenomena in a 3-axis levitation furnace.
ACTS	Advanced Communications Technology Satellite	Flight verification of high risk communications technology to support future satellite communications systems.
AD	Animal Development-Genetics	Series of experiments to determine effects of weightlessness on animal genetics.
ADSF	Automatic Directional Solidification Furnace	Technology demonstration of directional solidification of magnetic materials, immiscibles, and IR detection materials.
AFF	American Flight Echocardiograph	Collects quantitative in-flight data on cardiovascular changes in the crew.
AFP-675	Air Force Program-675	Collects infrared data to support Strategic Defense Initiative program. Formerly, Cryogenic Infrared Radiance Instrument for Shuttle (CIRRIS).

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
AGBA	Animal Generic Bioprocessing Apparatus	Animal enclosure system designed for space experiments.
ALT	Altitude	Orbit altitude in nautical miles.
AM	Auxiliary Module	Provides consumables resupply, payload changeout and additional on-orbit volume for the ISF Facility Module (FM).
AMOS	Air Force Maui Optical Station	Technology development/geophysical environment study. Calibrate AMOS ground-based electro-optical sensors and study on-orbit plume phenomenology using the Shuttle as a test object.
ANS	Astronomical Netherlands Satellite	Studies the sky in ultraviolet and x-ray from above the atmosphere.
APCF	Advanced Protein Crystallization Facility	Facility used to gain scientific knowledge about dynamics of protein crystal growth.
APCG	Advanced Protein Crystal Growth	Enhances scientific knowledge about dynamics of protein crystal growth in reduced gravity.
APE	Aurora Photography Experiment	Enhance understanding of the geographic extent and dynamics of the aurora.
APM	Ascent Particle Monitor	Collects particulate materials from the Orbiter during ascent, using an automated mechanical/electrical assembly.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
AR&C	Automatic Rendezvous and Capture	Demonstrates the capability to perform automated rendezvous, proximity operations and capture. This capability is required by future missions such as unmanned spacecraft operations with Space Station Freedom.
ARABSAT	Arab Satellite	Communications satellite of the Arab Satellite Communications Organization.
ARC	Aggregation of Red Cells	Studies aggregation of red cells and blood viscosity under low-g conditions.
ARF	Aquatic Research Facility	Houses a variety of small aquatic specimens for research on microgravity adaptation.
ARISTOTELES		Proposed NASA/ESA cooperative mission to study Earth's gravity and magnetic fields.
ASC	American Satellite Company	Satellite to provide commercial communication service to continental United States, Hawaii, Alaska, and Puerto Rico.
ASEM	Assembly of Station by Extravehicular Activity Methods	Supports SSF development by demonstrating strut handling and EVA translation techniques.
ASP	Attitude Sensor Package	Foreign Reimbursable Hitchhiker-6 payload.
ASPECTS	Application Specific Pre-Programmed Experiment Culture System	Payload to validate technology for the growth of cell and tissue culture in microgravity.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
ASTRO	Astronomy	Program designed to obtain ultraviolet (UV) data on astronomical objects using a UV telescope flying on SPACELAB.
ASTRO-SPAS	Astronomy Platform-Shuttle Pallet Satellite	A STS deployable astronomy platform developed by the German Space Agency.
ASTROMAG		Mission to investigate the origin and evolution of matter in the galaxy.
ATLAS	Atmospheric Laboratory for Applications and Science	Series of Spacelab flights that measure long term variability in the total energy radiated by the sun and determines the variability in the solar spectrum.
ATLAS I/II AS		Commercial and DOD intermediate class expendable launch vehicles.
ATLAS-E		DOD medium class expendable launch vehicle.
AURORA		Commercial communications satellite serving Alaska.
AUSSAT	Australian Communication Satellite	Direct broadcast communication satellite which provides services to continental Australia and offshore territories.
AXAF-I	Advanced X-Ray Astrophysics Facility-Imager	Complementary missions to perform high-quality X-ray imaging and spectroscopy over an extended lifetime.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
AXAF-S	Advanced X-ray Astrophysics Facility-Spectroscopy	Complementary missions to perform high-quality X-ray imaging and spectroscopy over an extended lifetime.
B-H	Bioseparations-High Pressure Liquid Chromotography (HPLC)	Testing of a miniature HPLC.
B/U		Back-up
BATTERY	Sodium Sulfur Battery Flight Experiment	Characterization of Sodium Sulfur battery performance in microgravity.
BATTLEVIEW	BATTLEVIEW	
BBXRT	Broad Band X-Ray Telescope	Provides high resolution x-ray spectra for both point and extended sources, including stellar coranae, x-ray, binaries, active agalactic nuclei, and clusters of galaxies.
BIMDA	Bioprocessing With the Materials Dispersion Apparatus	A wide range of tests focused on the assembly of macromolecules. Uses a middeck thermal enclosure system (TES) unit.
BITS	Battleview Image Transmission System	Exchanges tactical operations through manned spaceborne intelligence collection and communication. Key aspects include real-time imagery review and transmission to field users.
BLAST	Battlefield Laser Acquisition Sensor Test	Evaluates the concept of utilization of a spaceborne laser receiver to detect laser energy from specific ground-based test locations.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
BREMSAT	BREMAN Satellite	University of Bremen's satellite that will be ejected from a GAS canister.
BRIC	Biological Research In Canisters	Investigates the effects of microgravity on life science specimens utilizing the KSC Plant Canister and gaseous nitrogen freezer.
BS-3H	Broadcast Satellite	Japanese geosynchronous direct-broadcast satellite.
BSB	British Satellite Broadcasting	British commercial direct broadcast satellite.
C360	Cinema 360	35mm motion picture camera for the purpose of photographing crew and mission activities.
CANEX	Canadian Experiments	Group of Canadian experiments conducted aboard STS-13 (41-G) by a Canadian Payload Specialist.
CANEX-2	Canadian Experiments-2	Tests the Canadian developed Space Vision System Experiment Development Tests (VISET) using an RMS deployed target (CTA), experiments in material exposure, spacecraft glow, phase partitioning, metal diffusion and space adaptation tests.
CAP	Complex Autonomous Payload	Program to allow use of GAS hardware for payloads requiring more costly Shuttle service.
CAPL	Capillary Pump Loop Experiment	Hitchhiker experiment to quantify behavior of a full-scale capillary pumped loop heat transfer system in microgravity.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
CAPL/GBA	Capillary Pump Loop Experiment/GAS Bridge Assembly	Experiment to quantify behavior of a full-scale capillary pumped loop heat transfer system in microgravity flying on the Gas Bridge.
CASSINI		A spacecraft planned to conduct a four year detailed exploration of the Saturnian System and an ESA probe planning to penetrate and study the thick atmosphere of the moon Titan.
CBDE	Carbonated Beverage Dispenser Evaluation	Pepsico, Inc. experiment to evaluate packaging and dispensing techniques for space flight consumption of carbonated beverages.
CCAFS	Cape Canaveral Air Force Station	U.S. Air Force launch range on central Florida coast.
CDR	Commander	Member of the Shuttle flight crew in command of the flight.
CENTAUR		Upper stage system for Atlas and Titan ELVs.
CETA	Crew and Equipment Translation Aid	Experiment that evaluates the design concept and operational procedures of 3 prototype cart designs that are part of an effort to develop a transportation device for use on the exterior of the SSF.
CFES	Continuous Flow Electrophoresis System	Demonstrates the technology of pharmaceutical processing in space.
CGBA	Commercial Generic Bioprocessing Apparatus	Develop advanced systems for, and investigations in, bioprocessing of materials.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
CHAMP	Comet Halley Active Monitoring Program	Observes Comet Halley on STS flights.
CHROMEX	Chromosomes Experiment	Investigation of the effects of space flight on plant tissue growth.
CLOUDS	Cloud Logic to Optimize Use of Defense Systems	Hand-held 35 mm photography for observations of cloud formation, dissipation, and opaqueness.
CM-x	Commercial Middeck Payload	Commercial development middeck payload (X denotes approximate number of lockers).
CMIX	Commercial Middeck Instrumentation Technology Associates (ITA) Experiment	Private sector funded and developed payload consisting of multiple materials dispersion apparatus mini-lab devices, plus a self-contained power supply/controller. Uses a middeck thermal enclosure system (TES) unit.
CMSE	Extended Duration Space Environment Candidate Materials Exposure	Evaluation of space structure candidate composite materials for degradation due to exposure in low earth orbit using hitchhiker.
CMSE/E	Candidate Materials Space Exposure (CMSE) Evaluation of Oxygen Interaction With Materials-III (EOIM-03)	Evaluation of space structure candidate composite materials for degradation due to exposure in low earth orbit with EOIM-III for baseline data correlation.
CNCR	Characterization of Neurospora Circadian Rhythms in Space	Microgravity effects on circadian rhythms of neurospora.
COMSTAR		Communications satellite for COMSAT.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
CONCAP-II	Consortium for Materials Development in Space (Complex Autonomous Payload)-II	Investigates materials surface reactions to exposure to atomic oxygen flow in earth orbit for high temperature super conducting films and for materials degradation/reaction samples.
CONCAP-III	Consortium for Materials Development in Space (Complex Autonomous Payload)-III	Determine the influence of change in acceleration environment while performing materials processing.
CONCAP-IV	Consortium for Materials Development in Space (Complex Autonomous Payload)-IV	Several non-linear organic optical materials (crystals & films) will be grown by the vapor transport growth method.
CONE	Cryogenic Orbital Nitrogen Experiment	A collection of cryogenic fluid technology experiments using nitrogen as the cryogen.
CPCG-I	Commercial Protein Growth Block 1	Obtain high quality protein crystals using vapor diffusion process.
CPCG-II	Commercial Protein Crystal Growth Block 2	Obtain high quality protein crystals by chemically mixing or thermally controlling samples.
CREAM	Cosmic Radiation Effects and Activation Monitor	Uses an active cosmic ray monitor and seven passive packages to record on-orbit cosmic ray environments.
CRISTA-SPAS	Cryogenic Infrared Spectrometer Telescope for Atmosphere	A U.S./German joint aeronomy payload intended to explore the variability of the atmosphere and to provide measurements that will complement those provided by UARS.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
CRRES	Combined Release & Radiation Effects Satellite	Joint NASA/USAF spacecraft to produce dynamic model of Van Allen radiation belts.
CRUX	Cosmic Rays Upset Experiment	Studies on-orbit cosmic ray environments and monitors upsets on microcircuit devices.
CRW	Crew	The Shuttle flight crew for a particular mission.
CRYO-HP	Cryogenic Heat Pipe	GAS canister payload using liquid oxygen as the heat pipe working fluid and may be flown as a Hitchhiker.
CRYSP	Crystal Sample Package	A series of experiments to determine the effects of the complex radiation environment of space on the performance characteristics of advanced materials.
CSA	Canadian Space Agency	Provides robotics, including the Space Station Remote Manipulator System (SSRMS), for the Space Station Manned Base.
CSE	Cryogenic System Experiment	Evaluates the performance of the integrated cooling system and its capability to satisfy future mission performance requirements. Flown on a Hitchhiker.
CSGF	Commercial Solution Growth Facility	Develops new substrate manufacturing methods.
CTA	Canadian Target Assembly	Deployable target used for test of Canadian experimental space vision system (VISET) in CANEX-2.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
CVTE	Crystals By Vapor Transport Experiment	Investigate application of chemical vapor transport crystal growth process to materials of practical value in semiconductor and electro-optical device.
DAD	Dual Air Density	Measures global density of upper atmosphere and lower exosphere.
DC/PCG	Dynamically Controlled/Protein Crystal Growth	Grows protein crystals and biological macromolecules under microgravity conditions to facilitate the analysis of structures for commercial applications.
DEBRIS		Provides the capability for sensing space debris in the 1 to 10 mm size and determines albedo and low spectral characteristics of a large sample of low earth orbit debris.
DEE	Dexterous End Effector	Demonstrates a sensor for the Shuttle RMS which will allow for more precise control.
DELTA II		Medium class expendable launch vehicle.
DFI	Development Flight Instrument	Special instrumentation generally available on orbiter vehicle 102 (Columbia).
DFI PAL	Development Flight Instrumentation Pallet	A pallet used to accommodate the DFI used on the first four Shuttle flights.
DLR	Deutsche Forschungsanstalt fur Luft-und Raumfahrt	Federal German aerospace research establishment.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
DMOS	Diffusive Mixing of Organic Solutions	Grow crystals of organic compounds for research programs for the 3M Corporation's Science Research Laboratory.
DOD	Department of Defense	
DOD M88-01	Department of Defense M88-01	Evaluates the capability of man in space to enhance air, naval, and ground force operations and assesses the feasibility of observations of space debris while in orbit.
DS	Docking System	Mating system to be used in assembly and servicing of the ISF and the Space Station Freedom (MB-6 and subs).
DSCS	Defense Satellite Communications System	Series of U.S. Air Force communications satellites.
DSCT	Directional Solidification of Cadmium Telluride	Cadmium telluride will be grown using the directional solidification technique.
DSP	Defense Support Program	Geosynchronous DOD satellite.
DUR	Duration	The number of days for a Shuttle flight.
DXS	Diffuse X-ray Spectrometer	Shuttle experiment to conduct spectral observations of the diffuse galactic soft x-ray background to determine the ionic, elemental abundances and the plasma temperature of the hot phase of the interstellar medium. Flown on a Hitchhiker.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
EASE/ACCESS	Experimental Assembly of Structures in EVA/Assembly Concept for Construction of Erectable Space Structures	Obtains human factors data during assembly of structures in space during Extra Vehicular Activity.
ED0	Extended Duration Orbiter	Kit added to Orbiter to extend energy resources to support mission durations up to sixteen days.
EEVT	Electrophoresis Equipment Verification Test	Technology demonstration of apparatus to evaluate the effects of electrophoresis on biological cells in zero-g.
ELRAD	Earth-Limb Radiance Equipment	Obtain measurements of earth-limb radiance for various positions of the sun from near limb up to 9 degrees below earth horizon.
ELV	Expendable Launch Vehicle	Unmanned rocket used to deploy spacecraft into Earth's orbit.
EO	Earth Escape Orbit	
EOIM	Evaluation of Oxygen Interaction with Materials	Examines effects of atomic oxygen degradation on and determines reaction rates of various materials.
EOS	Earth Observing System	A complement of polar orbiting satellites conducting Earth science observations.
EOS-AERO	EOS Aerosol	Earth Observing System payload to observe aerosols in the troposphere and stratosphere.
EOS-ALT	EOS Altimeter	Earth Observing System payload to observe ocean circulation and global ice sheet mass balance.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
EOS-AM	EOS A.M. (Morning)	Earth Observing System payload to observe clouds, aerosols, radiative balance, and characterization of terrestrial surface.
EOS-CHEM	EOS Chemistry	Earth Observing System payloads to observe atmospheric chemical species and their transformations, and ocean surface stress.
EOS-PM	EOS P.M. (Afternoon)	Earth Observing System payloads to observe clouds and precipitation, terrestrial snow and sea ice, and sea surface temperature and ocean productivity.
EOS-SAR	EOS Synthetic Aperture Radar	L, C, and X-band SAR to produce multi-frequency, multi-polarization images of the Earth.
EPICS	Electrolysis Performance Improvement Concept Studies	Technology validation and characterization in microgravity of the water electrolysis concept to be used for metabolic oxygen generation in the Space Station Freedom and other life support, propulsion, EVA, and space power applications.
ERBS	Earth Radiation Budget Satellite	Collects global earth radiation budget data.
ESA	European Space Agency	Provides the Columbus Attached Pressurized Module (APU) for the Space Station Manned Base and other payloads that use the Space Shuttle.
EURECA	European Retrievable Carrier	Platform placed in orbit for six months offering conventional services to experimenters.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
EUTELSAT	European Telecommunications Satellite Organization	European commercial communications satellite.
EUVE	Extreme Ultraviolet Explorer	Produces definitive sky map and catalog of extreme ultra violet portion of electromagnetic spectrum (100-1000 angstroms).
EXOSAT	ESA X-Ray Satellite	Provides continuous observations of x-ray sources.
FARE	Fluid Acquisition and Resupply Experiment	Obtains data to evaluate fluid dynamics associated with capillary liquid acquisition devices.
FAST	Fast Auroral Snapshot Explorer	Spacecraft to investigate the processes operating within the auroral region.
FDE	Fluid Dynamics Experiment	A package of six experiments flown in the middeck that involve simulating the behavior of liquid propellants in low gravity.
FEA	Fluids Experiment Assembly	Investigate floating zone crystal growth processing investigations on selected semi-conductor materials.
FEE	French Echocardiograph Equipment	Obtains on-orbit cardiovascular system data.
FEL	First Element Launch	Initial launch of components for the Space Station Freedom manned base (SSF/MB).
FLT	Flight	The flight sequence number for Shuttle missions.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
FLTSATCOM	Fleet Communication Satellite	U.S. Navy communications satellite.
FLUIDS-GBA	Fluids Generic Bioprocessing Apparatus	Automated fluid/gas mixing and dispensing device that will be used to monitor fluid intake in crew members and to pioneer needed controlled environment life support system fluids management technologies.
FM	Facility Module	A man-tended module in support of ISF providing space for middeck locker inserts and common racks for payload accommodations.
FPE	French Postural Experiment	Studies sensory-motor adaptations in weightlessness.
FSS	Flight Support System	Support system of cradles and avionics used for satellite servicing.
FUSE	Far Ultraviolet Spectroscopy Explorer	Astronomy Ultraviolet Satellite
GAAS	Gallium Arsenide Experiment	
GALAXY		Hughes communications satellite.
GALILEO		Investigates the chemical composition and physical state of Jupiter's atmosphere and satellites.
GAS	Get Away Special	Alternate name for the Small Self-contained Payload (SSCP) program, providing standard canisters to accommodate low-cost space experimentation.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
GAS BRIDGE	Get Away Special Bridge	Structure in the payload bay that can hold up to twelve GAS canisters.
GAS CAN	GAS Canister	Structure which carries payloads. Located on gas bridge in Shuttle cargo bay.
GAS TEST		Test instrumentation to verify ability of the GAS hardware to function properly in flight.
GBA(xx)	GAS Bridge Assembly(xx)	(xx) denotes number of payloads on the GAS Bridge Assembly.
GCP	GL0/CRYO HP Payload	DOD Hitchhiker payload. See also GL0 and CRYOHP description.
GE	General Electric American Communications, Inc.	
GEOTAIL		NASA-Japan cooperative mission to explore Geotail of the Earth Plasma Physics.
GHCD	Growth Hormone Concentration & Distribution in Plants	Microgravity effects on growth hormone distribution of various plant life.
GL0	Shuttle Glow	A Hitchhiker payload to measure optical emissions observed on the surface of spacecraft and Shuttle.
GL0 II		
GL0MR	Global Low Orbit Message Relay	Packet data relay satellite.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
GOES	Geostationary Operational Environmental Satellite	NOAA weather satellites.
GOSAMR	Gelation of Sols: Applied Microgravity Research	Investigate gelation of multicomponent colloidal solutions and suspensions (SOL).
GP-B	Gravity Probe-B	Scientific probe to test Einstein's Theory of Relativity.
GRO	Gamma Ray Observatory	Investigates extraterrestrial gamma-ray sources.
GSFC	Goddard Space Flight Center	NASA center in Greenbelt, Maryland.
GS0	Geosynchronous Orbit	
GTC	Grand Tour Cluster	Cluster of five spacecraft to provide a comprehensive study of the micro- and mesoscale processes of the magnetosphere.
GT0	Geosynchronous Transfer Orbit	
HCMM	Heat Capacity Mapping Mission	Produces thermal maps for discrimination of rock types, mineral resources, plant temperatures, soil moisture, snow fields, and water runoff.
HE	High Eccentricity Orbit	
HEAO	High Energy Astronomical Observatory	Satellite to study energetic radiation from space.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
HEE	Human Energy Expenditure	Human experiment to measure energy expenditure in space.
HEEO	Highly Elliptical Earth Orbit	
HELIO	Heliocentric	
HERCULES	Hand-held, Earth-oriented, Real-time, Cooperative, User-friendly, Location, Targeting and Environmental System	This experiment upgrades/expands the Latitude/Longitude Locator (L3) experiment using a charge coupled device with inertial reference gyros. The objective is to locate earth surface sites within 1 nautical mile.
HESP	High Energy Solar Physics	Mission to study neutral radiation consisting of hard X-rays, gamma rays, and neutrons.
HETE	High Energy Transient Experiment	Spacecraft to study gamma ray burst sources and source locations, and x-ray burst sources and source locations.
HH-G	Hitchhiker-G	Shuttle cargo bay sidewall mounted carrier for small experiments.
HH-G1	Hitchhiker-G1	Demonstration flight of Hitchhiker-G hardware.
HH-M	Hitchhiker-M	Shuttle cargo bay across-bay carrier for small experiments.
HILAT	High Latitude	Evaluate propagation effects of disturbed plasmas on radar and communications systems.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
HME	Handheld Microgravity Experiment	Provides for middeck experiments of limited scope in order to allow for low-cost, timely testing of concepts or procedures, or the early acquisition of data.
HPCG	Handheld Protein Crystal Growth	Develops techniques to produce in the microgravity environment, protein crystals of sufficient size and quality to permit molecular analysis by diffraction techniques.
HPI	Hypergolic Plume Impingement	
HPP	Heat Pipe Performance & Working Fluid Behavior in Micro-gravity	Environment experiment to study the microgravity effects of working fluids used in heat pipes.
HPTE	High Precision Tracking Experiment	Demonstrates ability to propagate a low power laser beam through the atmosphere.
HRSGS	High Resolution Shuttle Glow Spectroscopy	Obtains high resolution spectra, in the visible and near visible wavelength range of the Shuttle surface glow as observed on the vertical tail of the Orbiter in LEO.
HS-376 RET-P	HS-376 Retrieval-PALAPA	Salvage of HS-376 (PALAPA) communication satellite launched on the tenth Shuttle mission.
HST	Hubble Space Telescope	Observes the universe to gain information about its origin, evolution and disposition of stars, galaxies, etc.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
HST SM	Hubble Space Telescope Servicing Mission	Servicing mission to the Hubble Space Telescope to replace science instruments or other orbital replacement units (ORU's).
IAE	Inflatable Antenna Experiment	Validates erection of a packaged 28 meter paraboloid and determines the structural dynamics and surface accuracy.
IAM	Infrared Astronomy (Rescoped SIRTf) Mission	Will span the infrared part of the spectrum with a thousand-fold increase in sensitivity.
IBIS	Instrument for Biological Investigations in Space	Cell and tissue culture system to investigate effects of micro-g on the function of a variety of cells.
IBSE	Initial Blood Storage Equipment	Evaluates changes in blood tissue during various storage conditions.
IBSS	Infrared Background Signature Survey	Obtains infrared measurements on rocket plumes, shortwave infrared Earth-limb, Shuttle environment, and chemical release from the payload bay while detached in proximity to the Orbiter.
ICBC	IMAX Cargo Bay Camera	A package of ten instruments designed to fly in the Orbiter payload bay on a special pallet to check for contamination in and around the Orbiter. It also has the capability to be operated on the end of the RMS outside of the payload bay.
IECM	Induced Environment Contamination Monitor	

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
IEF	Isoelectric Focussing Experiment	Gathers experimental data on the extent of electroosmosis in space.
IEH	International Extreme-UV Far-UV Hitchhiker	Hitchhiker experiment to study ultraviolet emissions.
IG	Igloo	Structure which provides a pressurized and thermally controlled environment for Spacelab pallet subsystems.
IMAX	IMAX Systems Corp., Toronto, Ontario, Canada	A large screen motion picture format used by the NASA/Smithsonian project to document significant space activities.
IMI	Inner Magnetosphere Imager	Mission to image the charged particle population of the Earth's magnetosphere.
IML	International Microgravity Laboratory	Series of microgravity missions devoted to material and life sciences studies using the Spacelab Long Module.
INCL	Inclination	Orbit inclination in degrees.
INMARSAT	International Maritime Satellite Organization	Commercial satellite series providing global maritime and aviation communications.
INSAT	Indian Satellite	Communication and meteorological satellite for the government of India.
INTEGRAL	International Gamma Ray Astrophysics Laboratory	Cooperative mission with ESA to perform detailed studies of the underlying physical processes in high-energy astrophysical systems.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
INTELSAT-VI-R	INTELSAT-VI-Reboost	The retrieval, repair and deployment of a communications satellite for the International Telecommunication Satellite organization.
IOCM	Interim Operational Contamination Monitor	Measures molecular and particulate contamination in the cargo bay from prelaunch to post-landing.
IPMP	Investigation into Polymer Membranes Processing	Investigates low-g environment effects on industrial processing techniques for developing polymer membranes.
IR-IE	Infrared Imaging Equipment	Infrared video camera used to measure temperature gradients on the Orbiter surface.
IRAS	Infrared Astronomical Satellite	All sky survey for objects that emit infrared radiation.
IRCFE	Infrared Communications Flight Experiment	Demonstrates the feasibility of using diffuse infrared light as a carrier for Shuttle crew communications.
IRIS	Italian Research Interim Stage	Italian upper stage for use on the Shuttle.
IRI	Integrated Rendezvous Radar Target	A target for testing of Shuttle Orbiter rendezvous techniques and capabilities in orbit.
ISAC	INTELSAT Solar Array Coupons	Studies atomic oxygen effects on materials (silver and zinc sulphite).
ISAIAH	Israeli Space Agency Investigation About Hornets	Gravity perceptions by hornets and their reactions to changes in gravity.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
ISAL	Investigation of STS Atmospheric luminosities	Determination of the spectral content of luminosity near Shuttle surfaces, to assess influence on optical experiments.
ISAS	Institute of Space and Astronautical Science	The Institute of Space and Astronautical Science of Japan.
ISC	International Space Corporation	Commercial joint endeavor activity.
ISEM	ITA Standardized Experiment	Cross-bay structure for accommodating multiple material processing experiments and other investigations
ISF	Industrial Space Facility	Commercially-owned, man-tended orbiting facility for research and manufacturing activities.
ITV	Instrumented Test Vehicle	Target for anti-Satellite.
IUS	Inertial Upper Stage	Upper stage system for Shuttle and Titan.
IUTE	Industry University Technology Experiment	Series of Space Technology experiments for U.S. industry and universities to be flown on the Shuttle or ELV.
JCSAT	Japan Communications Satellite	Japanese geosynchronous commercial communications satellite.
JDX	Joint Damping Experiment	Measurement of the damping behavior of liquids in a variety of rotating tanks.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
JFD	JEM Flight Demonstration	Demonstrates on-orbit capability of JEM Manipulator system with its dextrous Small Fine Arm in replacing Orbital Replacement Units on JEM Exposed Facility. Also serves as an end-to-end verification test for the prototype of JEM Operations System.
JSC	Johnson Space Center	NASA center in Houston, Texas.
JSE	Jitter Suppression Experiment	The in-space demonstration and validation of controls - structures interaction technology to suppression of jitter in precision space structures.
KSC	Kennedy Space Center	NASA center in Cape Canaveral, Florida.
L3	Latitude/Longitude Locator	Tests the capability of a space sextant/camera system to locate earth surface targets within 10 nautical miles.
LAGEOS	Laser Geodynamics Satellite	Spherical passive satellite covered with retroreflectors which are illuminated by ground-based lasers to determine precise measurements of the Earth's crustal movements.
LDCE	Limited Duration Space Environment Candidate Materials Exposure	Evaluation of candidate space structure composite materials for degradation due to exposure in LEO (passive systems).
LDEF	Long Duration Exposure Facility	Free-flying satellite providing accommodations for experiments requiring long-term exposure to the space environment.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
LEO	Low Earth Orbit	
LFC	Large Format Camera	Acquires synoptic, high-resolution images of the Earth's surface.
LITE	Lidar In-Space Technology Experiment	Project to measure the atmospheric parameters from a space platform utilizing laser sensors.
LM	Long Module	Spacelab Crew Module.
LME	Liquid Motion Experiment	Investigation of the behavior of liquids in a variety of rotating tanks.
LTT	Lunar Transit Telescope	Moon-based telescope to perform deep sky astronomical survey.
MACE	Middeck Active Control Experiment	Validation of controls/structures interaction technologies in zero gravity.
MACSAT	Multi-Access Communications Satellite	DOD battlefield tactical communications satellite.
MAGELLAN		
MAGSAT	Magnetic Field Satellite	Spacecraft designed to globally map the surface of Venus.
MAR	Middeck Accommodations Rack	Spacecraft to map the magnetic field of the Earth.
		An experiment integration facility installed in the middeck of the Shuttle with stowage volume equivalent to five middeck lockers. Power distribution and active thermal control options are available.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
MAST	Military Applications of Ship Tracks	Defines ship track characteristics with high resolution imagery to develop an understanding of the processes responsible for shiptrack formations, maintenance, and dissipation.
MBB	Messerschmitt-Boelkow-Blohm	A German industrial aerospace organization.
MD	Middeck	Lower deck of the Shuttle crew compartment.
MEMBRANE	Permeable Membrane for Plant Nutrient Delivery System	Verification of membrane transport performance in low gravity.
MESUR	Mars Environmental Survey	SEI precursor mission to conduct detailed surface environmental analysis of Mars.
MESUR PATHFINDER		Initial mission concept validation precursor for follow-on MESUR series.
MGM	Mechanics of Granular Materials	Microgravity experiment to study the effects of heat and near-zero gravity on the physical properties associated with various materials.
MIS I	Drug Microencapsulation in Microgravity	Evaluates the effects of microgravity on methods used to encapsulate drugs within biodegradable polymers. Combines materials science with biomedical product development and results in the production of a pharmaceutical product in space.
MLE	Mesoscale Lightning Experiment	Records and observes the visual characteristics of large scale lightning as seen from space using on-board television cameras.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
MLR	Monodisperse Latex Reactor	Produces monodisperse latex particles in the two to forty micron range.
MO	Mars Observer	Spacecraft to study the surface, climate, gravitational, and magnetic fields of the planet Mars.
MODE	Middeck 0-Gravity Dynamics Experiment	Studies the dynamics of liquids and skewed space structures in the microgravity environment.
MODE-RFLT	Middeck 0-Gravity Dynamics Experiment-Reflight	Reflight of the MODE payload
MORELOS		Mexican communication satellite system.
MPEC	Multi-Purpose Experiment Canister	An extended Hitchhiker-G. GAS canister capable of deploying an internally stowed payload.
MPESS	Mission Peculiar Equipment Support Structure	A cross-bay Shuttle payload carrier and support system for payloads weighing up to 3000 pounds.
MPSE	Mexican Payload Specialist Experiment	Experiment performed by a Mexican payload specialist on the Shuttle flight which deployed the MORELOS satellite.
MS	Mission Specialist	A member of Shuttle flight crew primarily responsible for Orbiter subsystem and payload activities.
MSACP	Microgravity Science and Applications Cooperative Program	Cooperative U.S. and foreign science investigation in the microgravity environment using the Shuttle middeck.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
MSFC	Marshall Space Flight Center	NASA site in Huntsville, Alabama.
MSL	Materials Science Laboratory	A payload which remains attached to the Shuttle to perform materials processing experiments in low-g.
MSTI	Miniature Seeker Technology Integration	SDIO experimental payload -- part of program to develop advanced seeker/sensor technology.
MTC	Man-tended Capability	Ability to perform laboratory operations on the Space Station Manned Base when the Shuttle present. Accomplished at the completion of MB-6.
MTPE	Mission to Planet Earth Office	Code Y (formerly OSSA)
N/A	Not Applicable	
NASDA or NASD	National Space Development Agency of Japan	Provides the Japanese Experiment Module for the Space Station manned base and other payloads that use the Space Shuttle.
NAVSTAR		USAF Global Positioning System (GPS) spacecraft series.
NEAR	Near Earth Asteroid Rendezvous	Mission to rendezvous with an asteroid in near-Earth trajectory. First in planned OSSA "Discovery" series.
NIH-C	National Institutes of Health-Cells	

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
NIH-R	National Institutes of Health-Rodents	To understand the physiological and anatomical changes that occur in mammals under weightless space flight conditions.
NOAA	National Oceanic and Atmospheric Administration	Developed a series of operational environmental satellites in polar orbit.
NOSL	Night/Day Optical Survey of Lightning	Optical survey of lightning.
NOVA		Advanced Navy Navigation Satellite.
NPBCSE	Neutral Particle Beam Cesium Space Experiment	Realistic microgravity simulation of neutral particle beam ion source, injector and accelerator to demonstrate reliable cesium delivery and control for experiment risk reduction, thus providing essential DOD information related to ballistic missile d
NUSAT	Northern Utah Satellite	University developed packet communications satellite; first successful payload ejection from a GAS canister.
OA	NASA Office of the Administrator	Code A
OACT	Office of Advanced Concepts and Technology	Code C (formerly OAST and OCP)
OASIS	OEX Autonomous Supporting Instrumentation System	Collects environmental data in the Orbiter during dynamic STS flight phases.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
OAST	NASA Office of Aeronautics and Space Technology	Developed a series of advanced space technology experiments utilizing a common data mounted on a platform in the Shuttle bay.
OAST-FLYER	Office of Aeronautics and Space Technology-Flyer	Free flyer deployed from the Shuttle containing several space technology experiments.
OCTW	Optical Communication Thru the Shuttle Window Flight Demonstration	Demonstrates a system that allows the Shuttle crew to interface with payloads without depending on Orbiter communication systems.
ODERACS	Orbital Debris Radar Calibration Spheres Project	Releases radar dipoles into earth orbit for purposes of calibrating ground-based radar.
OEX	Orbiter Experiments	Series of engineering experiments on the Orbiter.
OIM	Oxygen Interaction with Materials	Tests which obtained quantitative rates of oxygen interaction with materials used on the Orbiter and advanced payloads.
OLMSA	Office of Life and Microgravity Sciences and Applications	Code U (formerly OSSA)
OMDP	Orbiter Maintenance Down Period	Program requirement to take an orbiter out of service for structural inspections and periodic maintenance based on number of flights and/or time elapsed. (approximately every 3 years)
OPA	NASA Office of Public Affairs	Code P

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
ORFEUS-SPAS	Orbiting and Retrievable Far and Extreme Ultraviolet Spectrometer-Shuttle Pallet Satellite	A German developed payload to explore the distribution and character of radiation absorbing material in the solar system and to perform direct ultraviolet observations of the direct interstellar component.
ORS	Orbiter Refueling System	An experiment to demonstrate the ability of the STS to perform on-orbit satellite refueling.
ORSTEDSAT	ORSTED Scientific Microsatellite	Danish ELV secondary payload to conduct accurate global mapping of the Earth vector magnetic field.
OSC	NASA Office of Space Communications	Code 0
OSCAR	Orbiting Satellite Carrying Amateur Radio	Amateur communication satellite.
OSF	NASA Office of Space Flight	Code M
OSL	Orbiting Solar Laboratory	Provides detailed data on the sun, to augment our studies of distant stars and cosmic processes.
OSS	NASA Office of Space Science	Code S (formerly OSSA)
OSS-1	Office of Space Science-1	Single Pallet carrying eight experiments to demonstrate the use of the Shuttle for investigations in space plasma physics, solar physics, astronomy, etc. and to characterize the Orbiter and payload bay environment.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
OSSD	NASA Office of Space Systems Development	Code D
OSTA-1	Office of Space and Terrestrial Applications-1	Shuttle attached payload using the Shuttle Imaging Radar (SIR-A) to obtain high resolution images of earth.
OSTA-2	Office of Space and Terrestrial Applications-2	Microgravity experiments.
OSTA-3	Office of Space and Terrestrial Applications -3	Acquire photographic and radar images of the Earth's surface.
P-CENT	Gravitropic Responses of Plant Seedlings	Quantitative characterization of plant cell growth from gravitropic plant seeds without guidance from a significant gravity force.
PAL	Pallet	Spacelab Pallet structure.
PALAPA		Geosynchronous satellite communication system for the Republic of Indonesia.
PAM	Payload Assist Module	An upper stage system used on the Shuttle and the Delta ELV.
PARE	Physiological & Anatomical Rodent Experiment	Studies the physiological and anatomical changes that occur in mammals under weightless space flight conditions.
PBE	Pool Boiling Experiment	Studies fundamental mechanisms that constitute pool boiling.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
PCG-III	Protein Crystal Growth-III	Obtain high quality protein crystals to facilitate analysis of structures.
PDRS/PFTA	Payload Deployment and Retrieval System/Payload Flight Test Article	Tests the performance of the RMS in handling a massive object by unberthing and reberthing a payload using the RMS.
PEGASUS		Small class air-launched expendable launch vehicle.
PGBA	Plant Generic Bioprocessing Apparatus	Plant growth facility for space experiments.
PHCF	Pituitary Growth Hormone Cell Function	Microgravity induced effects on pituitary (active growth) hormones in various types of living cells.
PIONEER VENUS		Remote sensing and direct measurements of Venus and its surrounding environment.
PL OPPTY	Payload Opportunity	
PLAN	Planetary Trajectory	High Energy Trajectory to Outer Planets.
PLC	Payload Commander	A member of the Shuttle crew having overall crew responsibility for planning, integration, and on-orbit coordination of payload mission activities.
PLT	Pilot	A member of the Shuttle crew whose primary responsibility is to pilot the Orbiter.
PLUM	Polymerization With Light Under Microgravity	Perform ultra-violet light induced polymerization of organic polymers.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
PLUTO FLYBY		Small spacecraft to photograph and take environmental measurements of Pluto and its moon Charon in rapid fly-by.
PM	Polymer Morphology	Determines effects of weightlessness on morphological formation of polymers as they undergo physical transition.
PMC	Permanently Manned Capability	Ability for a four person crew to occupy the Space Station Manned Base on a permanent basis with periodic crew rotation. Accomplished at the completion of MB-17.
PMG	Plasma Motor Generator	ELV secondary payload experiment to verify ability of plasma sources to couple electric current along a wire.
PMZF	Programmable Multi-Zone Furnace	Materials processing apparatus located in the middeck accommodations rack.
POLAR		Polar Auroral Plasma Physics spacecraft.
PPE	Phase Partitioning Experiment	Studies separation behavior of two phase system generated by the mixture in water of polyglucose and polyethylene glycol.
PS	Payload Specialist	A member of the Shuttle crew, who is not a NASA astronaut, but whose presence is required to perform specialized functions with respect to one or more payloads or other mission unique activities.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
PSAS	Phenytoin for Space Adaptation Syndrome	Determines the efficacy of Phenytoin for the treatment of Space Adaptation Syndrome (SAS) and explores etiology of SAS as related to partial seizures.
PSB	Penn State Biomodule	Apparatus for physiological testing of tissues/cells in unmanned spacecraft.
PSE	Physiological Systems Experiment	Examines effects of hormone therapy on changes in organic systems during spaceflight.
PVTOS	Physical Vapor Transport of Organic Solids	Grows crystalline films on selected substrates of organic solids.
RADARSAT	Radar Satellite	Remote free flyer sensing satellite that will monitor land, sea and ice for five years over the poles (U.S./Canadian).
RADCAL	Radar Calibration Satellite	USAF STP satellite will carry C-band transponders and precise position determination equipment for calibrating radars used for space and missile tracking.
REQ	Request	
RETV	Retrieval	
REX	Radiation Experiment	Researches effects of electron density irregularities on transionosphere radio signals.
RME	Radiation Monitoring Equipment	Measures gamma radiation levels in the Shuttle environment.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
RMS	Remote Manipulator System	A Canadian developed, remotely controlled (from the Orbiter crew cabin) arm for deployment and/or retrieval of payloads from the Orbiter payload bay.
ROMPS	Robot Operated Materials Processing System	Investigates zero gravity annealing of semiconductor thin film and investigates robot handling of thin film samples.
S	Scout	Small class Expendable Launch Vehicle.
SAC-B	Satelite de Aplicaciones Cientificas-B	Argentine spacecraft carrying Hard X-Ray Spectrometer to investigate solar flares and cosmic transient X-ray emissions.
SAGE	Strategic Aerosol and Gas Experiment	Map vertical profiles of the ozone, aerosol, and nitrogen Rayleigh molecular extinction around the globe.
SAILS	Space Applications of Industrial Laser System	A laser processing facility for space based laser welding, cutting, drilling, and brazing.
SAM	Shuttle Activation Monitor	Collects gamma and x-ray data as a function of geomagnetic location from spacecraft materials.
SAMPEX	Solar, Anomalous, and Magnetospheric Particle Explorer	A spacecraft to study solar energetic particles, anomalous cosmic rays, galactic cosmic rays, and magnetospheric electrons.
SAMS	Space Acceleration Measurement System	Provides Orbiter acceleration measurements in support of microgravity experiments.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
SAN MARCO		NASA-owned Scout launch platform in the Indian Ocean off the coast of Kenya.
SAREX	Shuttle Amateur Radio Experiment	Low cost space to ground voice and slow scan television experiment.
SAS	Space Adaptation Syndrome	Physiological changes which occur when adapting to microgravity.
SATCOM		RCA communications satellite.
SBS	Satellite Business Systems	All digital domestic communication system servicing large industry, the government, etc.
SCOT	Student Coherent Orbiting Transponder	Student-built ELV secondary payload to be used by ground stations at several sites around the world to calibrate tracking capabilities.
SCOUT		Small class expendable launch vehicle.
SCOUT-01	(formerly) Lunar Resources Mapper	SEI precursor mission to produce elemental distribution maps of lunar surface.
SCOUT-02	(formerly) Lunar Geodetic Scout	SEI precursor mission to determine gravity and topography of lunar surface.
SDIO	Strategic Defense Initiative Organization	
SE	Student Experiment	Experiments sponsored by the Shuttle Student Involvement Program (SSIP).

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
SEDS	Small Expendable Deployer System	Experimental tether deployment device.
SEDSAT-1	Students for the Exploration and Development of Space Satellite-1	Proposed student-built ELV secondary payload to demonstrate capability of a tether to boost a payload to a higher orbit.
SFMD	Storable Fluid Management Demonstration	Demonstrates transfer of room-temperature fluids in zero-g using various transfer techniques.
SFP	Space Flight Participant	A Shuttle crew member whose presence is not required for operation of payloads or mission unique activities, but is determined by the NASA Administrator to contribute to other approved NASA objectives or to be in the national interest.
SFU-RETR	Space Flyer Unit Retrieval	A reusable, retrievable unmanned free flyer to be launched on the Japanese H-II rocket and retrieved by Shuttle.
SHARE	Space Station Heat Pipe Advanced Radiator Element	Demonstrates and quantifies the thermal performance of a high capacity, 50 foot, space constructible, heat pipe radiator element.
SHOOT	Super Fluid Helium On Orbit Transfer Demonstration	Demonstrates the feasibility of on-orbit transfer of superfluid helium using thermomechanical techniques.
SI1	Space Industries, Inc.	U.S. company providing commercially-owned Industrial Space Facility (ISF).
SIR	Shuttle Imaging Radar	Series of synthetic aperture radar experiments.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
SKYNET		United Kingdom military communication satellite.
SL-D1	Space lab D1	First dedicated German Spacelab mission.
SL-D2, -D3	Space lab D2, D3	Second and third in a series of German Spacelab Missions. Objectives include microgravity research and technology preparation for Space Station use.
SL-E	European Spacelab	ESA sponsored science mission directed toward multidiscipline research in materials science, fluid science, life sciences, space science, observation and technology research.
SL-J	Spacelab J	Combined NASDA/NASA Spacelab mission. Objectives include life sciences, microgravity, and technology research.
SL-M	Joint USA/Russian MIR Docking/Spacelab Life Science	Shuttle mission dedicated to rendezvous and docking with the Russian Space Station (MIR). Life Sciences experiments will be performed on the Spacelab.
SLS	Space Life Sciences Laboratory	Investigates the effects of weightlessness exposure using both man and animal specimens.
SLSTP	Space Life Sciences Training Program	Series of payloads to support a broad range of life sciences studies.
SM	Small Module	Spacelab crew module
SMEX	Small Explorer	Payloads being designed to fly on Small Class ELV's.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
SMRM	Solar Maximum Repair Mission	Conductes a technology demonstration of the STS capability to rendezvous, service, checkout and deploy.
SOHO	Solar Heliospheric Observatory	ESA spacecraft to provide optical measurements as well as plasma field and energetic particle observations of the sun system for studies of the solar interior, atmosphere and solar wind.
SOLAR PROBE		Studies unexplored region of the solar atmosphere, measures electromagnetic fields and studies the particle populations close to the sun.
SOOS	Stacked OSCAR on Scout	Two OSCAR satellites.
SPACEHAB		U.S. company providing commercially-owned pressurized module for conducting experiments in a man-tended environment. Also a series of payloads to be flown on the Space Shuttle.
SPACELAB 1		Demonstrates Spacelab's capabilities for multidisciplinary research.
SPACELAB 2		Demonstrates Spacelab's capabilities for multidisciplinary research and verified system performance.
SPACELAB 3		Dedicated materials processing mission emphasizing research in microgravity conditions.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
SPADVOS	Spaceborne Direct Viewing Optical System	Evaluates the crew's ability to utilize direct viewing system to allow realtime detection of ground and airborne targets.
SPAS	Shuttle Pallet Satellite	Payload Carrier developed by MBB of Germany.
SPAS-01/01A	German Shuttle Pallet Satellite	Demonstrates the utilization of the MBB platform and systems as a carrier for science experiments.
SPAS-III	Shuttle Pallet Satellite III	A reflight of the Infrared Background Survey (IBSS) mission.
SPIE	Shuttle Plume Impingement Experiment	Obtains quantitative measurements of the Primary Reaction Control System (PRCS) engine plume impingement effects on materials useful for SSF design.
SPTN	Shuttle Pointed Autonomous Research Tool for Astronomy	X-ray astronomy, medium energy survey mission, using retrievable free flyer.
SPTN-HALLEY	SPARTAN-HALLEY	Search for molecules containing nitrogen, carbon or sulfur and observes the UV spectrum between 2100 and 3400A.
SRL	Space Radar Laboratory	Series of flights to acquire radar images of the Earth's surface. The images will be used for making maps, interpreting geological features, and conducting resource studies.
SS	Sun Synchronous	Sun-synchronous polar orbit.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
SSBUV	Shuttle Solar Backscatter Ultra-Violet Instrument	Series of flights to measure ozone characteristics of the atmosphere.
SSCE	Solid Surface Combustion Experiment	Determines the gas-phase flamespread over solid fuel surfaces in microgravity.
SSF	Space Station Freedom	Earth orbiting platform which is being jointly developed by NASA, CSA, ESA and NASDA.
SSF/MB	Space Station Freedom/Mission Build	SSFP dedicated flights for the assembly of cargo elements for the space station Manned Base.
SSF/UF	Space Station Freedom/Utilization Flight	SSFP mission dedicated to the scientific users of station.
SSIP	Shuttle Student Involvement Program	Competitions held between 1981-1985 in which the winning High School students proposed experiments which were accepted for Shuttle flights.
STEX	Sensor Technology Experiment	Demonstrates radiation measurement technology.
STL	Space Tissue Loss	An experiment to validate or confirm model of skeletal and cardiac muscle atrophy, collect data on catabolic pathway and control mechanisms, and test candidate pharmaceuticals for efficacy.
STP-X	Space Test Program-X	A series of payloads which include DOD STP secondary experiments.
STS	Space Transportation System	The Space Shuttle; Manned launch vehicle dedicated to space exploration.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
STTP	Life Sciences Space Technology Training Program	Activity to develop and encourage interest on the part of college students in space biology and medicine.
SUVE	Solar Ultra Violet Experiment	To collect solar data with the solar imaging and EUV solar irradiance experiments. The data will be correlative with the co-manifested ATLAS-2 solar experiments for understanding of the upper atmosphere photochemistry.
SW	Sidewall	
SWAS	Submillimeter Wave Astronomy Satellite	Spacecraft to study how molecular clouds collapse to form stars and planetary systems.
SYNCOM	Hughes Geosynchronous Communication Satellite	Provides communication services from geosynchronous orbit principally to the U.S. government.
TAPS	Two Axis Pointing System	An instrument support system which allows pitch, roll, or combinations thereof to precisely point instruments at different targets.
TBD	To Be Determined	
TDRS	Tracking and Data Relay Satellite	Series of NASA tracking, data and communications satellites to replace the NASA ground based network.
TDRS-R	Tracking and Data Relay Satellite Series-Replenishment	Next generation of NASA tracking, data and communications satellites.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
TELESAT	Canadian Telecommunication Satellite	Communication satellite built for Telesat Canada to provide voice and TV coverage to trans-Canada network of Earth stations.
TELSTAR	AT&T Communications Satellite	AT&T COMSTAR replacement -- provides communication services to the continental U.S., Alaska, Hawaii, and Puerto Rico.
TEMP (TEMP 2A-3)	Thermal Energy Management Process	Demonstrates a mechanically pumped two phase heat acquisition, transport, and rejection thermal control system proposed for Space Station.
TERRA SCOUT		Evaluates the ability of an expert imagery analyst to conduct realtime analysis from low earth orbit.
TIMED-H/-L	Thermosphere-Ionosphere-Mesosphere Energetics and Dynamics/High and Low Inclination	Dual-spacecraft mission to investigate physical and chemical processes in the mesosphere and lower thermosphere/ionosphere.
TIP	Transit Improvement Program	Improved configuration Transit Navigation Satellite.
TIS	Teacher in Space	
TITAN II		DOD medium class expendable launch vehicle.
TITAN III		Commercial intermediate class expendable launch vehicle.
TITAN IV		DOD large class expendable launch vehicle.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
TLD	Thermoluminescent Dosimeter	Obtains gamma ray measurements of the Shuttle environment.
TOMS	Total Ozone Mapping Spectrometer	Study of Stratospheric ozone.
TOS	Transfer Orbit Stage	Upper stage system for Shuttle and Titan.
TPCE	Tank Pressure Control Experiment	A study to determine the effects of microgravity on the thermal stratification of fluids and to validate the effects of jet induced mixing.
TPFE	Two Phase Flow Experiment	Demonstration of a High Efficiency Thermal Interface (HEII) in an integrated thermal control system.
TRE	Torso Rotation Experiment	Monitors eye, head and torso movements in crew members performing normal activities for evidence of ego-centric motor strategies.
TSS	Tethered Satellite System	Cooperative system developed by ASI and NASA which is capable of deploying and retrieving a satellite which is attached by a wire tether from distances up to 100 km from the Orbiter.
U.S.	United States	
UARS	Upper Atmosphere Research Satellite	Satellite to study chemical processes acting within and upon the stratosphere, mesosphere, and lower thermosphere.
UK-6	United Kingdom-6	British Scientific Satellite

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
ULYSSES	Formerly ISPM (International Solar Polar Mission)	Investigates the properties of the heliosphere (sun and its environment).
USML	United States Microgravity Laboratory	Series of flights of a microgravity materials processing laboratory attached to the Shuttle.
USMP	United States Microgravity Payload	Series of flights that conduct materials processing experiments in the microgravity environment available in the Orbiter cargo bay while in low earth orbit.
USS	Unique Support Structure	
UV	Ultraviolet	
UVPI	Ultraviolet Plume Imager	Free-flying satellite observation of Orbiter Maneuvering System burns.
VAFB	Vandenberg Air Force Base	U.S. Air Force launch range on central California coast.
VCS	Voice Controlled System	Evaluates effectiveness of voice controlled system on the Shuttle cargo bay closed circuit television.
VFT	Visual Function Test in Space	A biomedical study to determine effects of microgravity on human visual performance.
VIPOR	Visual Investigation Program on Orbiter Operations	A series of experiments to study elements that can affect and degrade the performance of any optical (photo, visual, or video) system.

**** PAYLOAD/ACRONYM LIST ****

<u>PAYLOAD/ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
VTRE	Vented Tank Resupply Experiment	Investigation of concepts to provide tank fill-while-venting to 90 percent full capacity.
WESTAR	Western Union Telegraph Communication Satellite	A C-band satellite to replenish and expand the Westar system (Western Union domestic communication system).
WFF	Wallops Flight Facility	NASA small class ELV and sounding rocket launch range on Virginia coast.
WIND		Satellite to measure solar wind input to magnetosphere. Part of ISTP program.
WOSE	Weather Officer in Space Experiment	Assesses the feasibility of expert weather observations from space to observe, photograph, and videotape atmospheric and ionospheric phenomena.
WSF	Wake Shield Facility	Molecular and chemical beam epitaxy growth of compound semiconductors, high temperature superconductors, and other materials using techniques requiring ultra-high vacuum, high pumping speeds, and relatively large working volumes.
XTE	X-Ray Timing Explorer	A payload to be used in Earth orbit to investigate the physical nature of compact X-Ray sources by studying fluctuations in X-Ray brightness over time-scales ranging from microseconds to years.

C-2